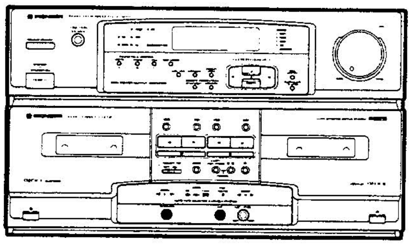
**PIONEER**
*The Art of Entertainment*

# Service Manual



ORDER NO.
**ARP2653**

## DOUBLE DECK AMPLIFIER

# DC-J210
# DC-J110

**DC−J210 AND DC−J110 HAVE THE FOLLOWING :**

| Type | Model | | Power Requirement | Remarks |
|---|---|---|---|---|
| | DC−J210 | DC−J110 | | |
| SD | ○ | ○[*1] | AC110V, 120[*1]−127V, 220V, 240V (Switchable) | [*1] 120V |
| SL | — | ○ | AC110V, 120V, 220V, 240V (Switchable) | |
| YPW | ○ | ○ | AC240V only | |

- **This manual is applicable to the following : DC−J210/SD and YPW ; DC−J110/SD, SL and YPW.**
- **For the following : DC−J210/YPW ; DC−J110/SD, SL and YPW, refer to page 59.**
- **These products are systems components.**
  **Each of these products does not function properly when independent ; to avoid malfunctions, be sure to connect it to the prescribed system component (s), otherwise damage may result.**

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# 1. EXPLODED VIEWS, PACKING AND PARTS LIST

*NOTES :*

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

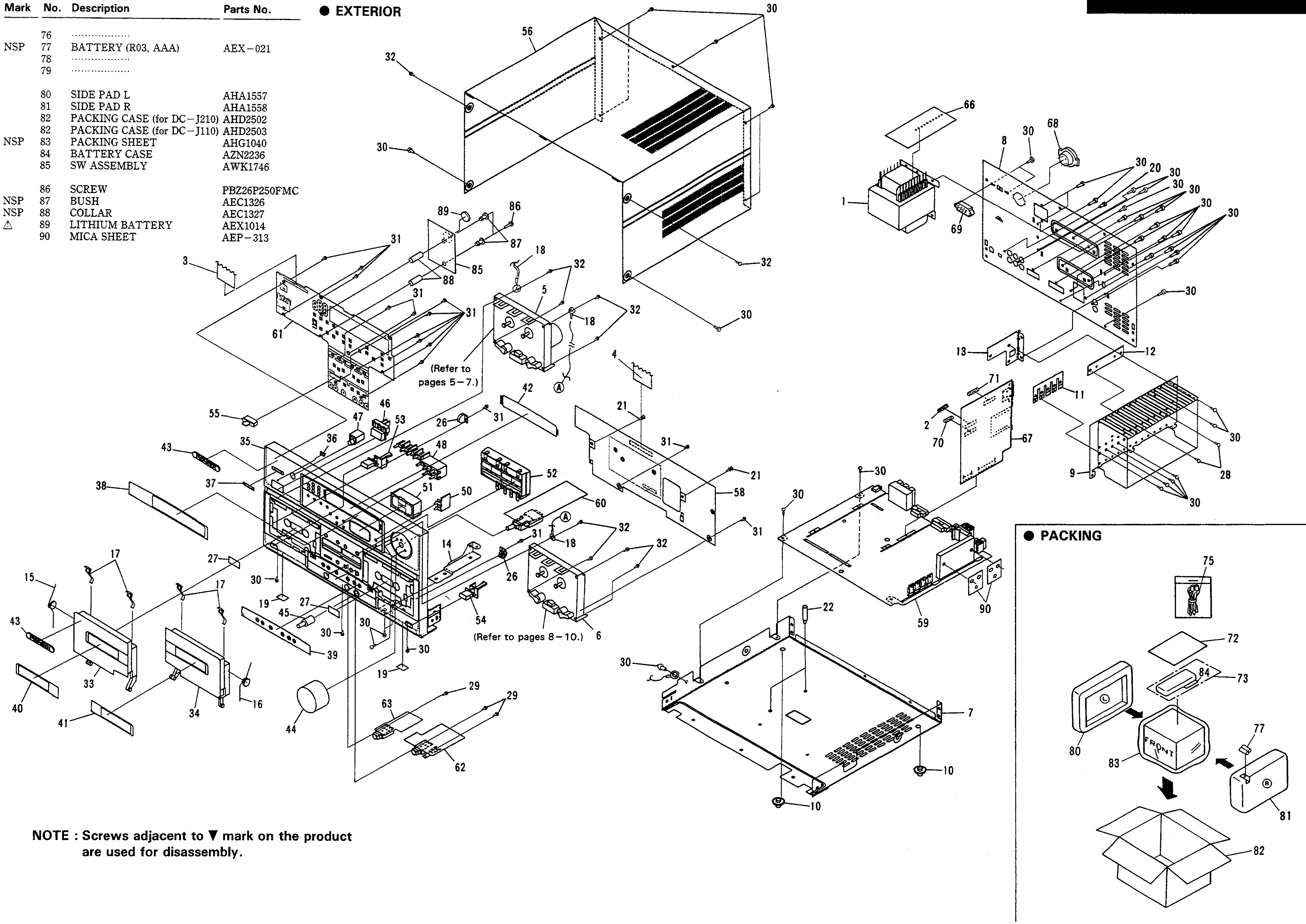
## 1.1 EXTERIOR AND PACKING

**Parts list**

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| ⚠ | 1 | POWER TRANSFORMER (T102 for DC−J210) | ATS1468 |
| ⚠ | 1 | POWER TRANSFORMER (T102 for DC−J110) | ATS1470 |
| ⚠ | 2 | FUSE (T1.6A/250V, FU1102) (for DC−J210) | AEK−510 |
| ⚠ | 2 | FUSE (T800mA/250V, FU1102) (for DC−J110) | AEK−507 |
| ⚠NSP | 3 | FLAT CABLE (J112) | ADD1112 |
| ⚠ | 4 | FLAT CABLE (J105) | ADD1116 |
|  | 5 | 1 MECHA UNIT | EXK2026 |
|  | 6 | 2 MECHA UNIT | EXK2056 |
|  | 7 | CHASSIS (MTL) | ANA1201 |
|  | 8 | REAR PANEL (MTL) | ANC2005 |
|  | 9 | HEAT SINK (AL) (for DC−J210) | ANH1425 |
|  | 9 | HEAT SINK (AL) (for DC−J110) | ANH1408 |
|  | 10 | LEG ASSEMBLY | AEC1049 |
| NSP | 11 | HOLDER | ANG1561 |
| NSP | 12 | HOLDER | ANG1600 |
|  | 13 | HEAT SINK HOLDER (MTL) | ANG1777 |
|  | 14 | PCB HOLDER A (MTL) | ANG1778 |
|  | 15 | DOOR SPRING L | ABH1085 |
|  | 16 | DOOR SPRING R | ABH1086 |
|  | 17 | KEEP PLATE | ABK1017 |
| NSP | 18 | EARTH LEAD | ADB1006 |
| NSP | 19 | CUSHION | AEB1194 |
|  | 20 | SCREW | ABA−222 |
|  | 21 | NYLON RIVET | AEC1160 |
| NSP | 22 | PCB SUPORT (H20) | AEC1200 |
|  | 23 | .................. |  |
|  | 24 | .................. |  |
|  | 25 | .................. |  |
|  | 26 | DAMPER ASSEMBLY | AXA1008 |
|  | 27 | SHEET | AAX1301 |
|  | 28 | SCREW (3×18) | ABA1018 |
|  | 29 | SCREW (2.6×8) | ABA1095 |
|  | 30 | SCREW | BBZ30P080FZK |
|  | 31 | SCREW | BPZ26P080FMC |
|  | 32 | SCREW | VPZ30P080FZK |
|  | 33 | CASSETTE DOOR L (PLS) | AAN1365 |
|  | 34 | CASSETTE DOOR R (PLS) | AAN1376 |
|  | 35 | FRONT PANEL (PLS) (for DC−J210) | AMB2092 |
|  | 35 | FRONT PANEL (PLS) (for DC−J110) | AMB2095 |
|  | 36 | LENS (POWER) | AAK2442 |
|  | 37 | FILTER (PLS) | AAK2376 |
|  | 38 | DECORATIVE PLATE (AMP) | AAK2441 |
|  | 39 | DECORATIVE PLATE (DECK) | AAK2398 |
|  | 40 | DECORATIVE PLATE (DOOR L) | AAK2400 |
|  | 41 | DECORATIVE PLATE (DOOR R) | AAK2402 |
|  | 42 | FL FILTER (PVC) | AAK2482 |
|  | 43 | BADGE (ABS) | AAM1047 |
|  | 44 | VOL KNOB | AAB1337 |
|  | 45 | MIC KNOB | AAB1339 |
|  | 46 | POWER BUTTON | AAD2370 |
|  | 47 | FUNCTION BUTTON | AAD2372 |
|  | 48 | BUTTON (GEQ) | AAD2373 |
|  | 49 | .................. |  |
|  | 50 | AUDITION BUTTON | AAD2375 |
|  | 51 | CURSOR BUTTON | AAD2377 |
|  | 52 | DECK BUTTON | AAD2379 |
|  | 53 | EJECT BUTTON L | AAD2380 |
|  | 54 | EJECT BUTTON R | AAD2381 |
|  | 55 | SLIDE KNOB | AAE1160 |
|  | 56 | BONNET CASE (MTL) | ANE1388 |
|  | 57 | .................. |  |
|  | 58 | TAPE ASSEMBLY | AWV1318 |
|  | 59 | AF ASSEMBLY (for DC−J210) | AWZ4650 |
|  | 59 | AF ASSEMBLY (for DC−J110) | AWZ4647 |
|  | 60 | VOLUME ASSEMBLY | AWZ4653 |
|  | 61 | DISPLAY ASSEMBLY | AWZ4657 |
|  | 62 | MIC ASSEMBLY | AWZ4663 |
|  | 63 | HEADPHONE ASSEMBLY | AWZ4666 |
|  | 64 | .................. |  |
|  | 65 | .................. |  |
| NSP | 66 | TRANS CONNECT ASSEMBLY | AWZ4672 |
|  | 67 | SUB TRANS ASSEMBLY | AWZ4680 |
| ⚠ | 68 | VOLTAGE SELECTOR (S1) [AC110/120−127 (120 for SL) /220/240V] | AKX−507 |
| ⚠ | 69 | VOLTAGE SELECTOR (S2) (AC110−127/220−240V) | AKX1004 |
| ⚠ | 70 | FUSE (T1.6A/250V, FU1103) (for DC−J210) | AEK−510 |
| ⚠ | 70 | FUSE (T800mA/250V, FU1103) (for DC−J110) | AEK−507 |
| ⚠ | 71 | FUSE (T2.5A/250V, FU1101) | AEK−512 |
|  | 72 | OPERATING INSTRUCTIONS (English) | ARB1410 |
|  | 73 | REMOTE CONTROL UNIT (CU−DC030) | AXD1337 |
|  | 74 | .................. |  |
|  | 75 | AC POWER CORD | ADG1129 |

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | 76 | .................. | |
| NSP | 77 | BATTERY (R03, AAA) | AEX−021 |
| | 78 | .................. | |
| | 79 | .................. | |
| | 80 | SIDE PAD L | AHA1557 |
| | 81 | SIDE PAD R | AHA1558 |
| | 82 | PACKING CASE (for DC−J210) | AHD2502 |
| | 82 | PACKING CASE (for DC−J110) | AHD2503 |
| NSP | 83 | PACKING SHEET | AHG1040 |
| | 84 | BATTERY CASE | AZN2236 |
| | 85 | SW ASSEMBLY | AWK1746 |
| | 86 | SCREW | PBZ26P250FMC |
| NSP | 87 | BUSH | AEC1326 |
| NSP | 88 | COLLAR | AEC1327 |
| ⚠ | 89 | LITHIUM BATTERY | AEX1014 |
| | 90 | MICA SHEET | AEP−313 |

## ● EXTERIOR



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(Refer to pages 5−7.)
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(Refer to pages 8−10.)
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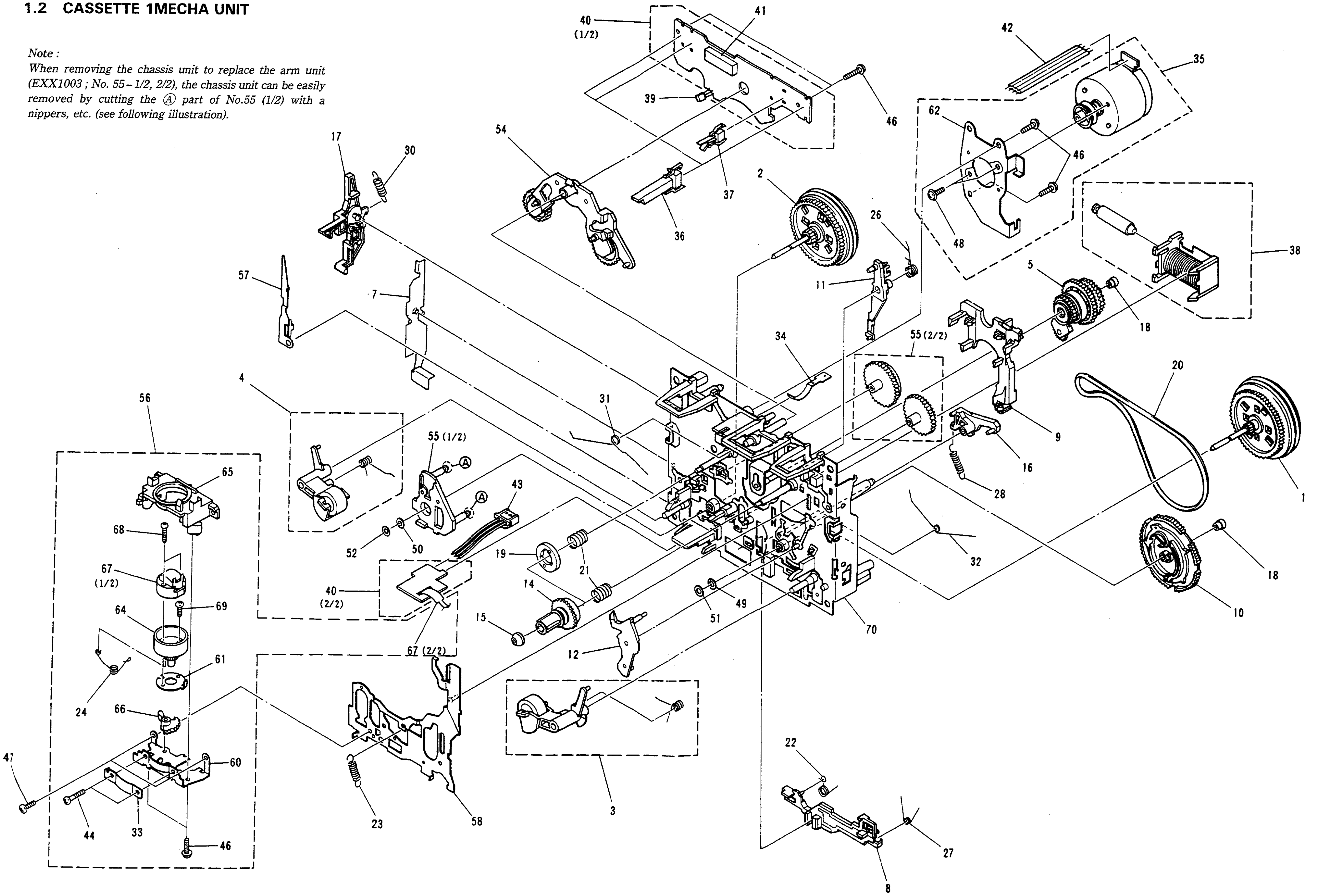
**NOTE : Screws adjacent to ▼ mark on the product are used for disassembly.**

## ● PACKING

75
72
73
84
80
83
77
81
82
FRONT
Ⓛ
Ⓡ

## 1.2 CASSETTE 1MECHA UNIT

*Note :*
*When removing the chassis unit to replace the arm unit (EXX1003 ; No. 55 – 1/2, 2/2), the chassis unit can be easily removed by cutting the Ⓐ part of No.55 (1/2) with a nippers, etc. (see following illustration).*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57
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18
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55 (2/2)
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56
65
55 (1/2)
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Ⓐ
43
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18
67 (1/2)
40 (2/2)
14
49
64
69
15
51
10
70
61
12
67 (2/2)
24
66
60
3
22
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44
33
23
58
27
46
8

## Parts list

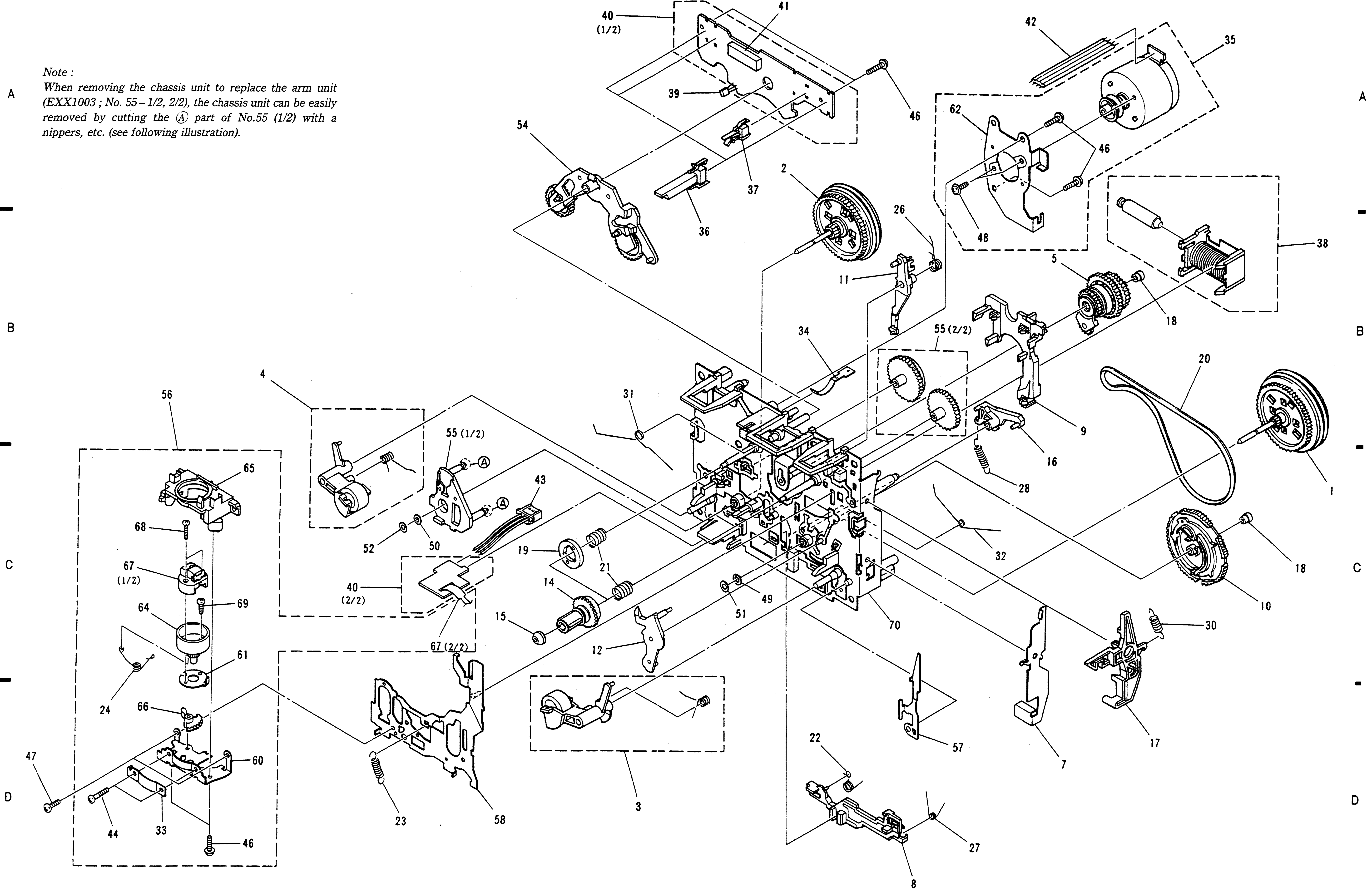
| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | 1 | FLYWHEEL UNIT (FWD) | EXA1222 |
| | 2 | FLYWHEEL UNIT (RVS) | EXA1223 |
| | 3 | ROLLER UNIT (FWD) | EXA1224 |
| | 4 | ROLLER UNIT (RVS) | EXA1225 |
| | 5 | LIMITER UNIT | EXA1226 |
| | 6 | ............... | |
| | 7 | EJECT LEVER L2 | AZN2063 |
| | 8 | LEVER | ENV1305 |
| | 9 | BRAKE | ENV1317 |
| | 10 | GEAR | ENV1318 |
| | 11 | LOCK ARM | ENV1159 |
| | 12 | NR ARM | ENV1163 |
| | 13 | .................. | |
| | 14 | REEL | ENV1335 |
| | 15 | REEL BUSH | ENV1338 |
| | 16 | ARM | ENV1330 |
| | 17 | EJECT LEVER L1 | AZN2108 |
| | 18 | BUSH | ENV1184 |
| | 19 | MAGNET | ENV1336 |
| | 20 | BELT | ENT1023 |
| | 21 | SPRING | EBH1424 |
| | 22 | SPRING | EBH1401 |
| | 23 | SPRING | EBH1203 |
| | 24 | SPRING | EBH1402 |
| | 25 | .................. | |
| | 26 | SPRING | EBH1406 |
| | 27 | SPRING | EBH1407 |
| | 28 | SPRING | EBH1408 |
| | 29 | .................. | |
| | 30 | SPRING | EBH1409 |
| | 31 | SPRING | EBH1410 |
| | 32 | SPRING | EBH1256 |
| | 33 | SPRING | EBL1013 |
| | 34 | SPRING | EBL1014 |
| | 35 | MOTOR UNIT | EXA1241 |
| | 36 | SWITCH (Detect) | ESN1009 |
| | 37 | SWITCH (Mode) | ESN1010 |
| | 38 | SOLENOID | EXP1005 |
| | 39 | HALL IC | DN6847SE |
| | 40 | COMPLEX PCB | ENX1020 |
| | 41 | CONNECTOR (10P) | EKS1013 |
| | 42 | LEAD WIRE (4P) | EDD1003 |
| | 43 | CONNECTOR (3P) | EDE1009 |
| | 44 | SCREW (AZIMUTH) | EBA1020 |
| | 45 | .................. | |
| | 46 | SCREW (M2×8) | ATZ20P080FMC |
| | 47 | SCREW | BSZ20P050FMC |
| | 48 | SCREW | PMS26P025FUC |
| | 49 | WASHER | EBF1008 |
| | 50 | WASHER | EBF1009 |
| | 51 | WASHER | EBF1010 |
| | 52 | WASHER | EBF1011 |
| | 53 | ................ | |
| | 54 | ARM UNIT | EXX1006 |
| | 55 | ARM UNIT | EXX1003 |
| | 56 | P HEAD ASSEMBLY | EXX1008 |
| | 57 | ARM | ENC1288 |
| | 58 | HEAD BASE UNIT | EXA1230 |
| | 59 | .................. | |
| NSP | 60 | BRACKET | ENC1284 |
| NSP | 61 | PLATE | ENC1285 |
| NSP | 62 | BRACKET | ENC1199 |
| | 63 | .................. | |
| NSP | 64 | HOLDER | ENV1161 |
| NSP | 65 | HOLDER | ENV1301 |
| NSP | 66 | GEAR | ENV1177 |
| NSP | 67 | P HEAD UNIT | EXA1110 |
| NSP | 68 | SCREW | JGZ14P085FNI |
| NSP | 69 | SCREW | JGZ14P040FNI |
| NSP | 70 | CHASSIS UNIT | .................. |

## 1.3 CASSETTE 2 MECHA UNIT

**Parts list**

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | 1 | FLYWHEEL UNIT (FWD) | EXA1222 |
| | 2 | FLYWHEEL UNIT (RVS) | EXA1223 |
| | 3 | ROLLER UNIT (FWD) | EXA1224 |
| | 4 | ROLLER UNIT (RVS) | EXA1225 |
| | 5 | LIMITER UNIT | EXA1226 |
| | 6 | ............... | |
| | 7 | EJECT LEVER R2 | AZN2064 |
| | 8 | NR LEVER | ENV1305 |
| | 9 | BRAKE | ENV1317 |
| | 10 | CAM GEAR | ENV1318 |
| | 11 | LOCK ARM | ENV1159 |
| | 12 | NR ARM | ENV1163 |
| | 13 | .................. | |
| | 14 | REEL | ENV1335 |
| | 15 | REEL BUSH | ENV1338 |
| | 16 | ARM | ENV1330 |
| | 17 | EJECT LEVER R1 | AZN2109 |
| | 18 | BUSH | ENV1184 |
| | 19 | MAGNET | ENV1336 |
| | 20 | BELT | ENT1023 |
| | 21 | SPRING | EBH1424 |
| | 22 | SPRING | EBH1401 |
| | 23 | SPRING | EBH1203 |
| | 24 | SPRING | EBH1402 |
| | 25 | .................. | |
| | 26 | SPRING | EBH1406 |
| | 27 | SPRING | EBH1407 |
| | 28 | SPRING | EBH1408 |
| | 29 | .................. | |
| | 30 | SPRING | EBH1409 |
| | 31 | SPRING | EBH1410 |
| | 32 | SPRING | EBH1256 |
| | 33 | SPRING | EBL1013 |
| | 34 | SPRING | EBL1014 |
| | 35 | MOTOR UNIT | EXA1241 |
| | 36 | SWITCH (Detect) | ESN1009 |
| | 37 | SWITCH (Mode) | ESN1010 |
| | 38 | SOLENOID | EXP1005 |
| | 39 | HALL IC | DN6847SE |
| | 40 | SUB COMPLEX PCB | ENX1019 |
| | 41 | CONNECTOR (15P) | EKS1012 |
| | 42 | LEAD WIRE (4P) | EDD1003 |
| | 43 | CONNECTOR (5P) | EDE1008 |
| | 44 | SCREW (AZIMUTH) | EBA1020 |
| | 45 | .................. | |
| | 46 | SCREW (M2×8) | ATZ20P080FMC |
| | 47 | SCREW | BSZ20P050FMC |
| | 48 | SCREW | PMS26P025FUC |
| | 49 | WASHER | EBF1008 |
| | 50 | WASHER | EBF1009 |
| | 51 | WASHER | EBF1010 |
| | 52 | WASHER | EBF1011 |
| | 53 | ............... | |
| | 54 | ARM UNIT | EXX1006 |
| | 55 | ARM UNIT | EXX1003 |
| | 56 | R/P HEAD ASSEMBLY | EXX1013 |
| | 57 | ARM | ENC1289 |
| | 58 | HEAD BASE UNIT | EXA1230 |
| | 59 | ............... | |
| NSP | 60 | BRACKET | ENC1284 |
| NSP | 61 | PLATE | ENC1285 |
| NSP | 62 | BRACKET | ENC1289 |
| | 63 | ............... | |
| NSP | 64 | HOLDER | ENV1161 |
| NSP | 65 | HOLDER | ENV1301 |
| NSP | 66 | GEAR | ENV1177 |
| NSP | 67 | R/P HEAD UNIT | EXA1234 |
| NSP | 68 | SCREW | JGZ14P085FNI |
| NSP | 69 | SCREW | JGZ14P040FNI |
| NSP | 70 | CHASSIS UNIT | ............... |

*Note :*
*When removing the chassis unit to replace the arm unit (EXX1003 ; No. 55 – 1/2, 2/2), the chassis unit can be easily removed by cutting the Ⓐ part of No.55 (1/2) with a nippers, etc. (see following illustration).*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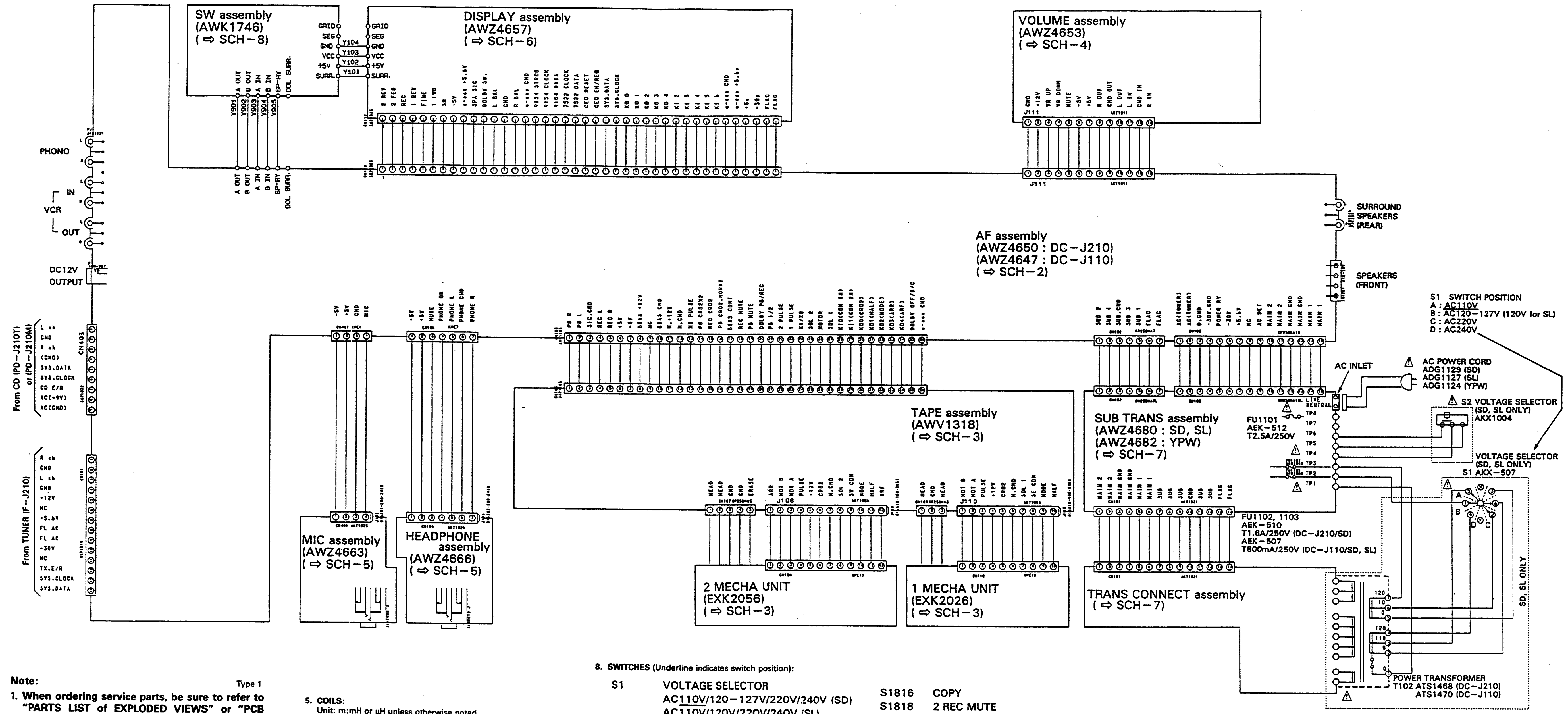
# 2. SCHEMATIC AND PCB CONNECTION DIAGRAMS

## 2.1 OVERALL SCHEMATIC DIAGRAM


SW assembly
(AWK1746)
(⇨ SCH−8)
GRID
SEG
GND
VCC
+5V
SURR.
Y104
Y103
Y102
Y101
A OUT
B OUT
A IN
B IN
SP-RY
DOL SURR.
Y901
Y902
Y903
Y904
Y905
DISPLAY assembly
(AWZ4657)
(⇨ SCH−6)
VOLUME assembly
(AWZ4653)
(⇨ SCH−4)
J111
PHONO
VCR
IN
OUT
DC12V
OUTPUT
From CD (PD−J210T) or (PD−J210M)
CN403
From TUNER (F−J210)
SURROUND
SPEAKERS
(REAR)
SPEAKERS
(FRONT)
AF assembly
(AWZ4650 : DC−J210)
(AWZ4647 : DC−J110)
(⇨ SCH−2)
S1 SWITCH POSITION
A : AC110V
B : AC120−127V (120V for SL)
C : AC220V
D : AC240V
AC INLET
AC POWER CORD
ADG1129 (SD)
ADG1127 (SL)
ADG1124 (YPW)
S2 VOLTAGE SELECTOR
(SD, SL ONLY)
AKX1004
LIVE
NEUTRAL
FU1101
AEK−512
T2.5A/250V
TP8
TP7
TP6
TP5
TP4
TP3
TP2
TP1
VOLTAGE SELECTOR
(SD, SL ONLY)
S1 AKX−507
TAPE assembly
(AWV1318)
(⇨ SCH−3)
SUB TRANS assembly
(AWZ4680 : SD, SL)
(AWZ4682 : YPW)
(⇨ SCH−7)
MIC assembly
(AWZ4663)
(⇨ SCH−5)
HEADPHONE
assembly
(AWZ4666)
(⇨ SCH−5)
J108
J110
2 MECHA UNIT
(EXK2056)
(⇨ SCH−3)
1 MECHA UNIT
(EXK2026)
(⇨ SCH−3)
FU1102, 1103
AEK−510
T1.6A/250V (DC−J210/SD)
AEK−507
T800mA/250V (DC−J110/SD, SL)
TRANS CONNECT assembly
(⇨ SCH−7)
SD, SL ONLY
120
10
0
120
110
0
POWER TRANSFORMER
T102 ATS1468 (DC−J210)
ATS1470 (DC−J110)

**Note:**

Type 1

1. **When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".**
2. **Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.**
3. **RESISTORS:**
   Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
   Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
   Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
4. **CAPACITORS:**
   Unit: p:pF or µF unless otherwise noted.
   Ratings: capacitor (µF)/ voltage (V) unless otherwise noted.
   Rated voltage: 50V except for electrolytic capacitors.
5. **COILS:**
   Unit: m:mH or µH unless otherwise noted.
6. **VOLTAGE AND CURRENT:**
   ☐V : Signal voltage at rated output.
   ← V : DC voltage (V) at no input signal unless otherwise noted. Value in ( ) is DC voltage at rated power.
   ⇦ mA or ← mA : DC current at no input signal unless otherwise noted.
7. **OTHERS:**
   - ➡ : Signal route.
   - ⊘ : Adjusting point.
   - ▼ : Measurement point.
   - The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.

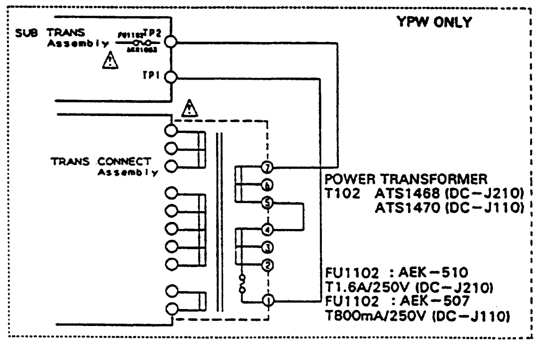
8. **SWITCHES** (Underline indicates switch position):

| | |
|---|---|
| S1 | VOLTAGE SELECTOR<br>AC110V/120−127V/220V/240V (SD)<br>AC110V/120V/220V/240V (SL) |
| S2 | VOLTAGE SELECTOR<br>AC110−127V/220−240V |

DISPLAY assembly

| | |
|---|---|
| S1801 | SMART OPERATION START/SET (AI BGM) |
| S1802 | FUNCTION (DEMO) |
| S1804 | SMART OPERATION MEMORY (AI MEMORY) |
| S1805 | POWER |
| S1806 | 1 REV |
| S1807 | 1 PLAY |
| S1808 | 1 STOP |
| S1809 | 2 REW |
| S1810 | 2 FF |
| S1811 | 1 REW |
| S1812 | 1 FF |
| S1813 | 2 STOP |
| S1814 | 2 REV |
| S1815 | 2 PLAY |
| S1816 | COPY |
| S1818 | 2 REC MUTE |
| S1819 | ASES |
| S1820 | 2 REC PAUSE |
| S1901 | DOLBY NR ON/OFF |
| S3801 | GEQ FREQ UP |
| S3802 | GEQ LEVEL DOWN |
| S3806 | SURROUND & WIDE |
| S3807 | GEQ LEVEL UP |
| S3808 | GEQ FREQ DOWN |
| S3809 | GEQ MODE |
| S3810 | PRESET/PGM |
| S3811 | GEQ ON/OFF |
| S3813 | SFC MOVIE/A<br>(SFC : SOUND FIELD CONTROL) |
| S3814 | SFC DISCO/B |
| S3815 | SFC HALL/C |
| S3816 | SFC MEMO |
| S3817 | SFC OFF |

9. **For SCH−☐ on the schematic diagram**
   - SCH−☐ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)


YPW ONLY
SUB TRANS Assembly
TP2
TP1
TRANS CONNECT Assembly
POWER TRANSFORMER
T102 ATS1468 (DC−J210)
ATS1470 (DC−J110)
FU1102 : AEK−510
T1.6A/250V (DC−J210)
FU1102 : AEK−507
T800mA/250V (DC−J110)

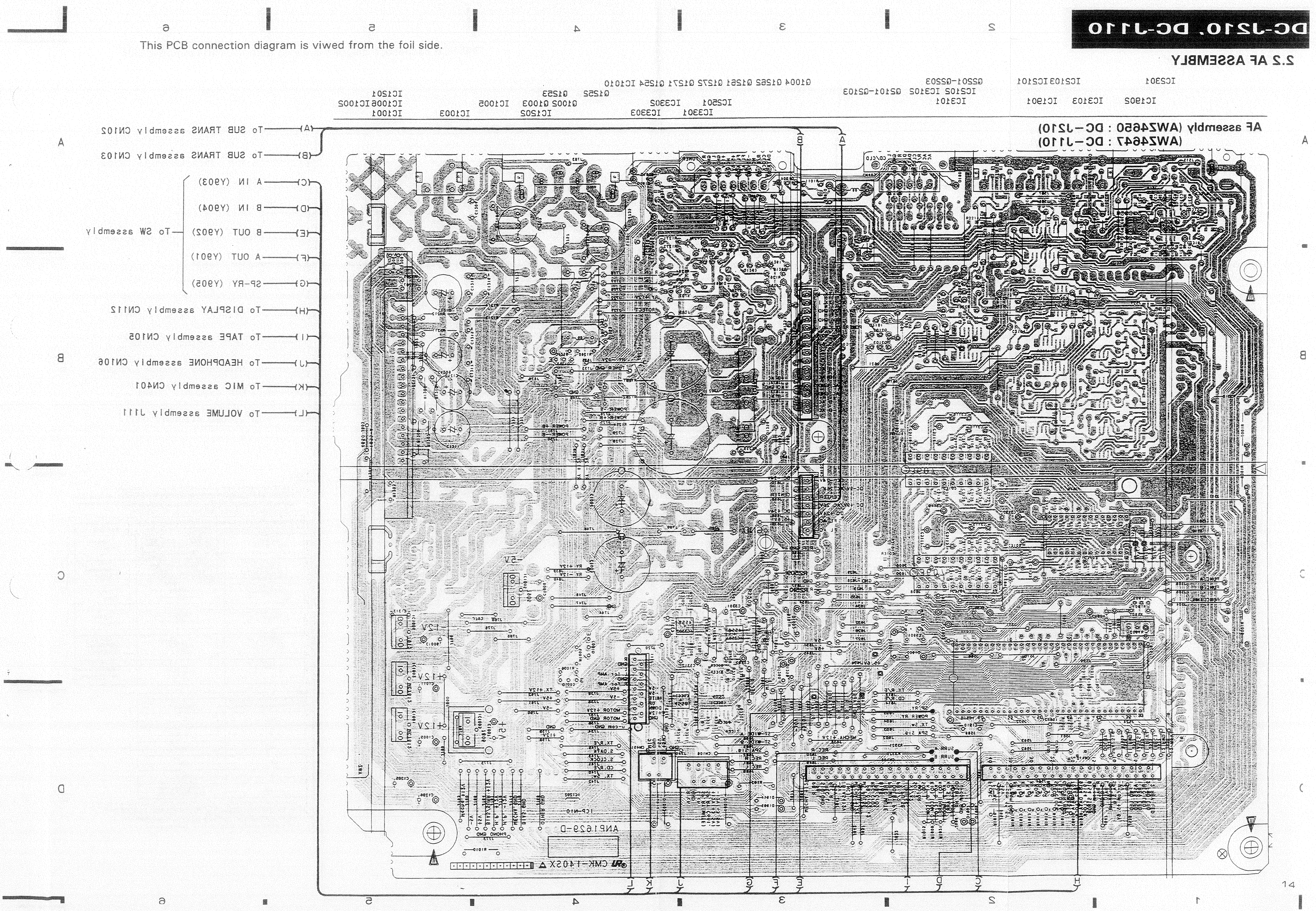
**SCH−1** OVERALL SCHEMATIC DIAGRAM

OVERALL SCHEMATIC DIAGRAM **SCH−1**

## 2.2 AF ASSEMBLY

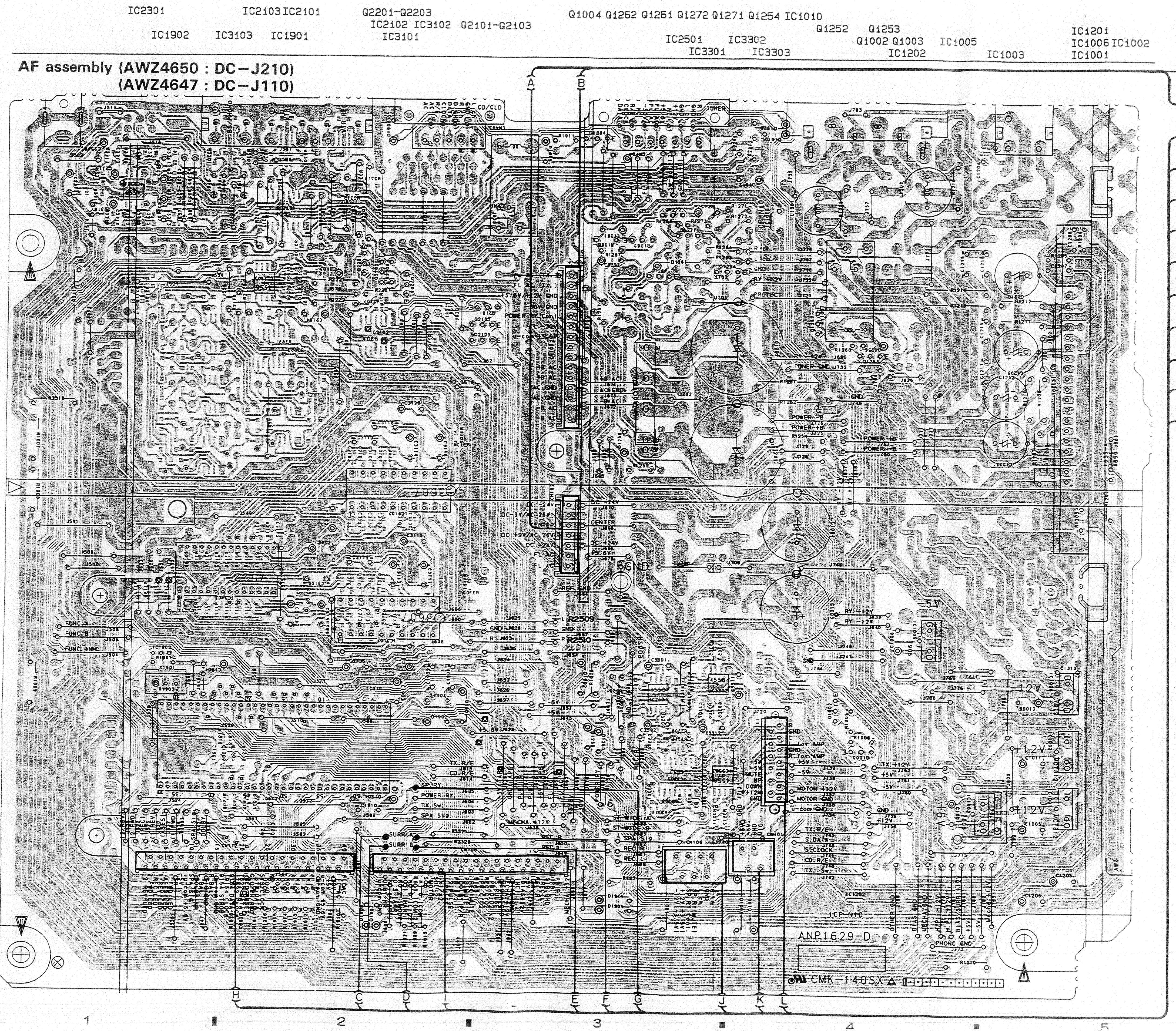
This PCB connection diagram is viwed from the foil side.

**AF assembly (AWZ4650 : DC-J210)**
**(AWZ4647 : DC-J110)**


6
5
4
3
2
1
A
B
C
D
IC301
IC2101 IC2103
IC1902 IC3103 IC1901
Q2201–Q2203
IC2102 IC3102 Q2101–Q2103
IC3101
Q1004 Q1252 Q1261 Q1272 Q1271 Q1254 IC1010
IC2501 IC3302
IC3301 IC3303
Q1252 Q1253
Q1002 Q1003 IC1005
IC1202 IC1003
IC1201
IC1006 IC1002
IC1001
(A) To SUB TRANS assembly CN102
(B) To SUB TRANS assembly CN103
(C) A IN (Y903)
(D) B IN (Y904)
(E) B OUT (Y902)
(F) A OUT (Y901)
(G) SP-RY (Y905)
To SW assembly
(H) To DISPLAY assembly CN112
(I) To TAPE assembly CN105
(J) To HEADPHONE assembly CN106
(K) To MIC assembly CN401
(L) To VOLUME assembly J111
-5V
+12V
+5V
ANP1629-D
CMK-1405X
A B C D E F G H I J K L

## 2.2 AF ASSEMBLY

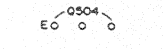
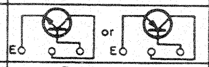
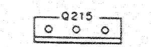
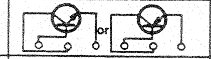
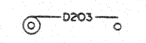
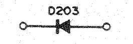
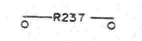
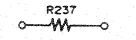
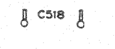
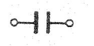
This PCB connection diagram is viewd from the parts mounted side.


IC2301
IC1902
IC3103
IC2103 IC2101
IC1901
Q2201–Q2203
IC2102 IC3102 Q2101–Q2103
IC3101
Q1004 Q1262 Q1251 Q1272 Q1271 Q1254 IC1010
IC2501 IC3302
IC3301 IC3303
Q1252 Q1253
Q1002 Q1003 IC1005
IC1202
IC1003
IC1201
IC1006 IC1002
IC1001
AF assembly (AWZ4650 : DC−J210)
(AWZ4647 : DC−J110)
A
B
H
C
D
I
E
F
G
J
K
L
ANP1629-D
CMK-140SX

(A) To SUB TRANS assembly CN102
(B) To SUB TRANS assembly CN103
(C) A IN (Y903)
(D) B IN (Y904)
(E) B OUT (Y902) — To SW assembly
(F) A OUT (Y901)
(G) SP-RY (Y905)
(H) To DISPLAY assembly CN112
(I) To TAPE assembly CN105
(J) To HEADPHONE assembly CN106
(K) To MIC assembly CN401
(L) To VOLUME assembly J111

NOTE

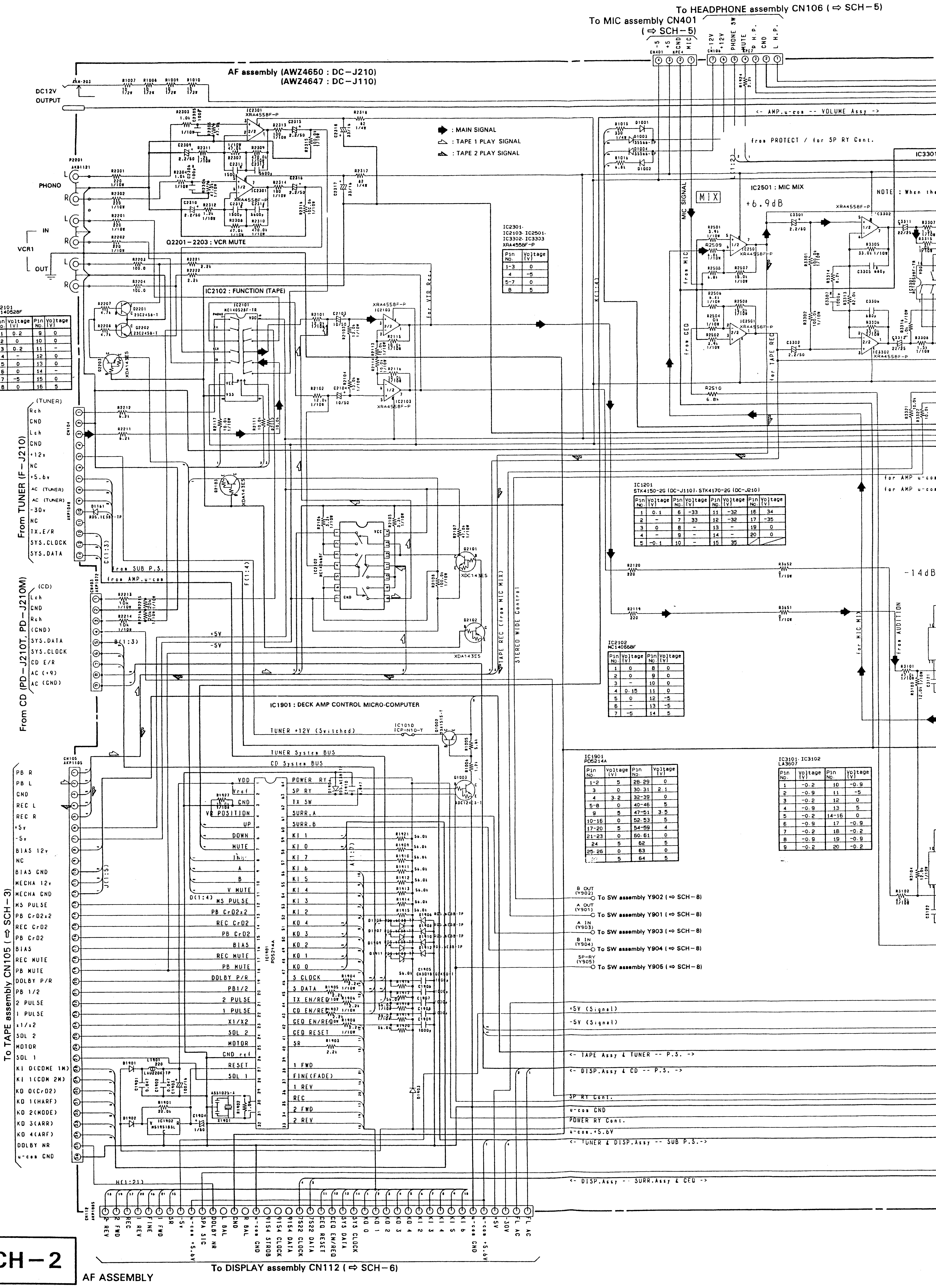
1. This P.C.B connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

| P.C.B. pattern diagram indication | Corresponding part symbol | Part Name |
|---|---|---|
|  Q504 E |  E or E | Transistor |
|  Q215 |  or | Radiator type transistor |
|  D203 |  D203 | Diode |
|  R237 |  R237 | Resistor |
| C513 | | Capacitor (Polarized) |
|  C518 |  | Capacitor (Non-polarized) |

Others

| P.C.B. pattern diagram indication | Part Name |
|---|---|
| IC | IC |
| S | Switch |
| RY | Relay |
| L | Coil |
| F | Filter |
| VR | Variable resistor or Semi-fixed resistor |

3. The capactor terminal marked with ⊚(double circles) shows negatine terminal.
4. The diode terminal marked with ⊚(double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.


To HEADPHONE assembly CN106 ( ⇨ SCH−5)
To MIC assembly CN401 ( ⇨ SCH−5)
AF assembly (AWZ4650 : DC−J210)
(AWZ4647 : DC−J110)
DC12V OUTPUT
PHONO
VCR1
IN
OUT
: MAIN SIGNAL
: TAPE 1 PLAY SIGNAL
: TAPE 2 PLAY SIGNAL
Q2201−2203 : VCR MUTE
IC2102 : FUNCTION (TAPE)
IC2501 : MIC MIX
MIX
+6.9dB
-14dB
MIC SIGNAL
IC1901 : DECK AMP CONTROL MICRO-COMPUTER
TUNER +12V (Switched)
TUNER System BUS
CD System BUS
From TUNER (F−J210)
From CD (PD−J210T, PD−J210M)
To TAPE assembly CN105 ( ⇨ SCH−3)
To DISPLAY assembly CN112 ( ⇨ SCH−6)
To SW assembly Y902 ( ⇨ SCH−8)
To SW assembly Y901 ( ⇨ SCH−8)
To SW assembly Y903 ( ⇨ SCH−8)
To SW assembly Y904 ( ⇨ SCH−8)
To SW assembly Y905 ( ⇨ SCH−8)
+5V (Signal)
-5V (Signal)
<- TAPE Assy & TUNER -- P.S. ->
<- DISP.Assy & CD -- P.S. ->
SP RY Cont.
u-com GND
POWER RY Cont.
u-com +5.6V
<- TUNER & DISP.Assy -- SUB P.S.->
<- DISP.Assy -- SURR.Assy & CEQ ->
<- AMP.u-com -- VOLUME Assy ->
from PROTECT / for SP RY Cont.
for VTR Rec.
TAPE REC (from MIC MIX)
STEREO WIDE Control
for MIC MIX
from AUDITION
1
2
3
4
5

IC2101
MC140528F

| Pin No. | Voltage (V) | Pin No. | Voltage (V) |
|---|---|---|---|
| 1 | 0.2 | 9 | 0 |
| 2 | 0 | 10 | 0 |
| 3 | 0.2 | 11 | − |
| 4 | − | 12 | 0 |
| 5 | 0 | 13 | 0 |
| 6 | 0 | 14 | − |
| 7 | −5 | 15 | 0 |
| 8 | 0 | 16 | 5 |

IC2301·
IC2103·IC2501·
IC3302·IC3303
XRA4558F−P

| Pin No. | Voltage (V) |
|---|---|
| 1−3 | 0 |
| 4 | −5 |
| 5−7 | 0 |
| 8 | 5 |

IC1201
STK4150−2G (DC−J110)·STK4170−2G (DC−J210)

| Pin No. | Voltage (V) | Pin No. | Voltage (V) | Pin No. | Voltage (V) | Pin No. | Voltage (V) |
|---|---|---|---|---|---|---|---|
| 1 | 0.1 | 6 | −33 | 11 | −32 | 16 | 34 |
| 2 | − | 7 | 33 | 12 | −32 | 17 | −35 |
| 3 | 0 | 8 | − | 13 | − | 19 | 0 |
| 4 | − | 9 | − | 14 | − | 20 | 0 |
| 5 | −0.1 | 10 | − | 15 | 35 | | |

IC2102
MC140668F

| Pin No. | Voltage (V) | Pin No. | Voltage (V) |
|---|---|---|---|
| 1 | 0 | 8 | 0 |
| 2 | 0 | 9 | 0 |
| 3 | − | 10 | 0 |
| 4 | 0.15 | 11 | 0 |
| 5 | 0 | 12 | −5 |
| 6 | − | 13 | −5 |
| 7 | −5 | 14 | 5 |

IC1901
PD5214A

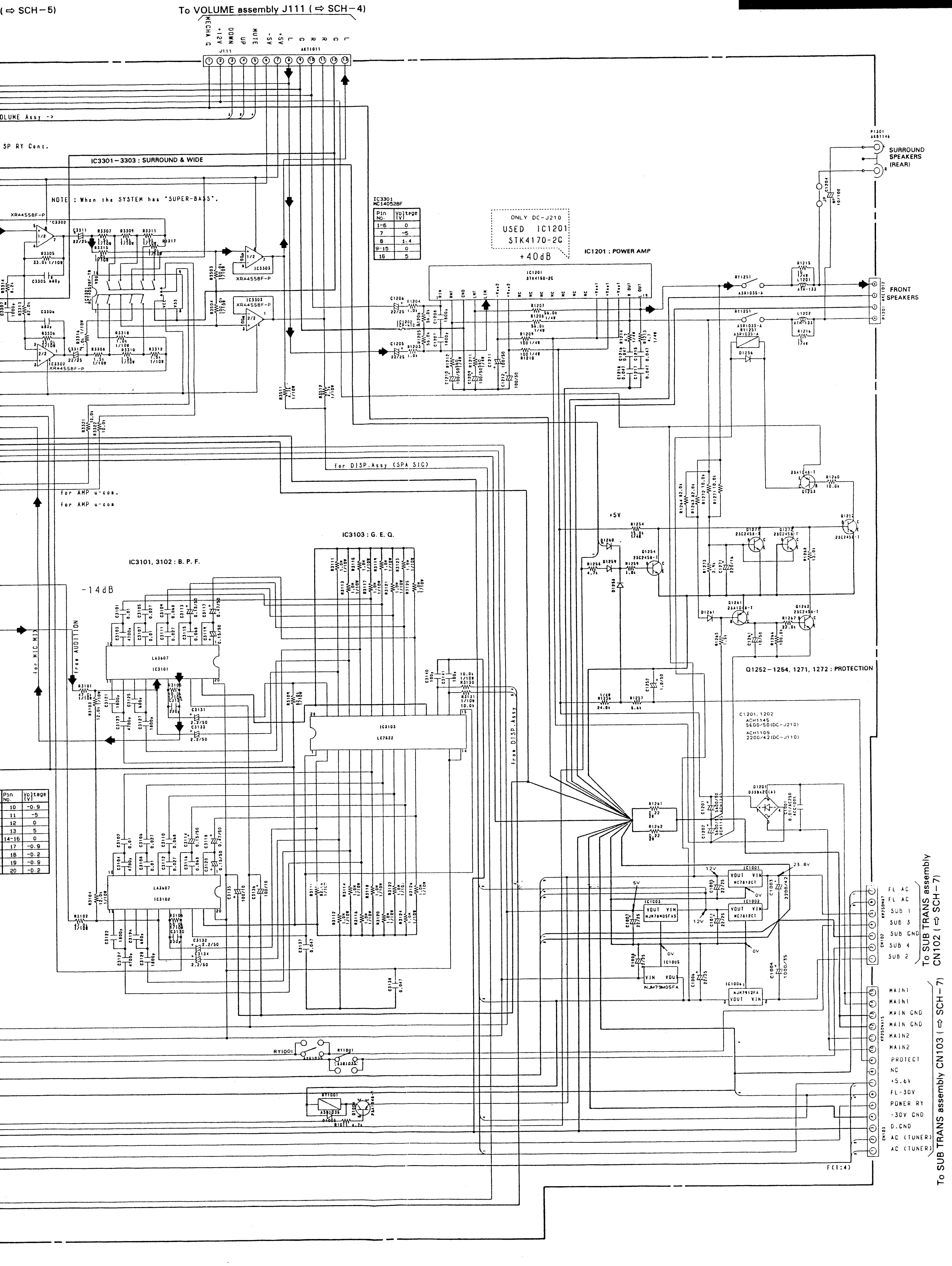
| Pin No. | Voltage (V) | Pin No. | Voltage (V) |
|---|---|---|---|
| 1−2 | 5 | 28·29 | 0 |
| 3 | 0 | 30·31 | 2.1 |
| 4 | 3.2 | 32−39 | 0 |
| 5−8 | 0 | 40−46 | 5 |
| 9 | 5 | 47−51 | 3.5 |
| 10−16 | 0 | 52·53 | 5 |
| 17−20 | 5 | 54−59 | 4 |
| 21−23 | 0 | 60·61 | 0 |
| 24 | 5 | 62 | 5 |
| 25·26 | 0 | 63 | 0 |
| [illegible] | 5 | 64 | 5 |

IC3101·IC3102
LA3607

| Pin No. | Voltage (V) | Pin No. | Voltage (V) |
|---|---|---|---|
| 1 | −0.2 | 10 | −0.9 |
| 2 | −0.9 | 11 | −5 |
| 3 | −0.2 | 12 | 0 |
| 4 | −0.9 | 13 | 5 |
| 5 | −0.2 | 14−16 | 0 |
| 6 | −0.9 | 17 | −0.9 |
| 7 | −0.2 | 18 | −0.2 |
| 8 | −0.9 | 19 | −0.9 |
| 9 | −0.2 | 20 | −0.2 |

**SCH−2**

AF ASSEMBLY

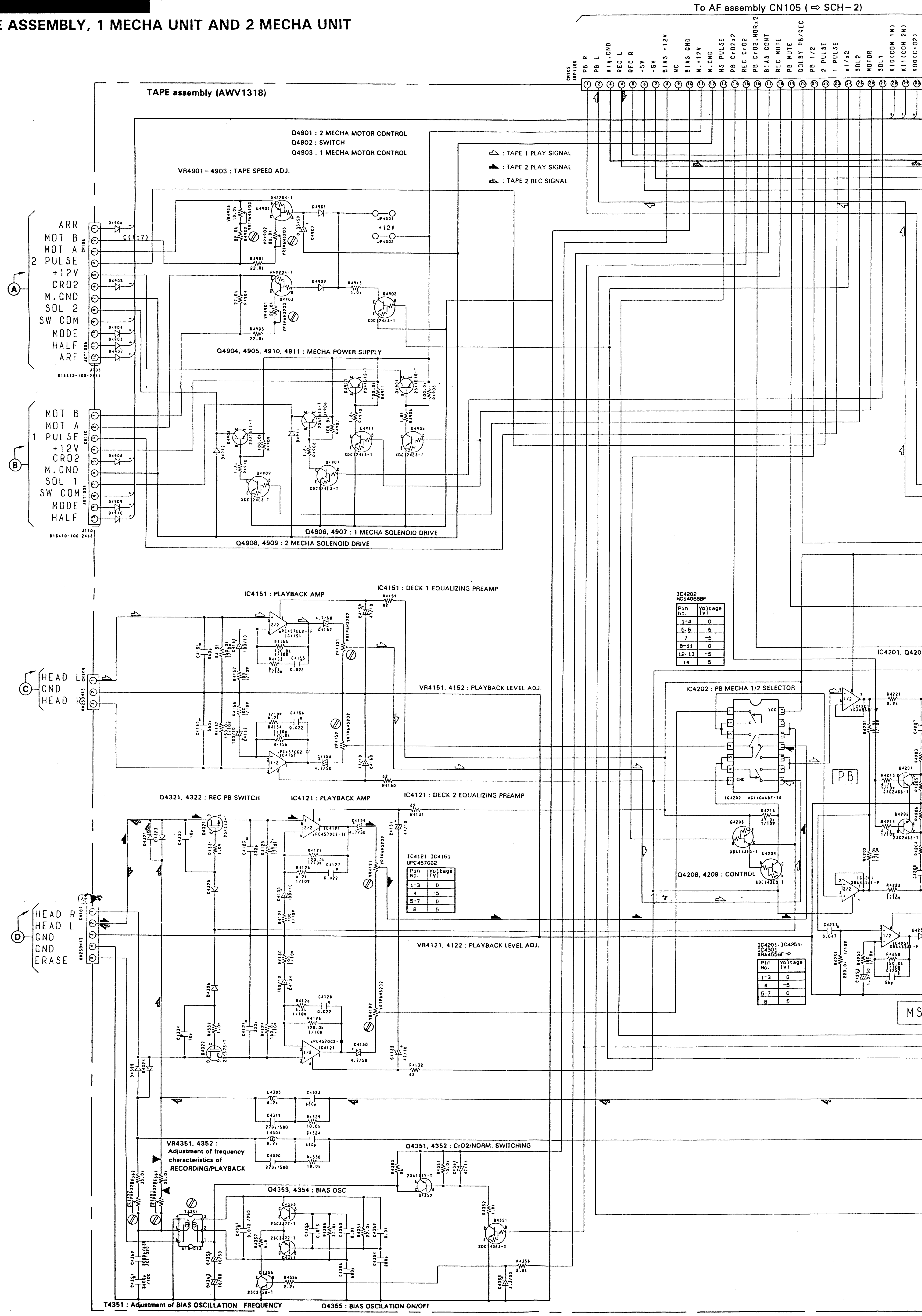

( ⇨ SCH-5)
To VOLUME assembly J111 ( ⇨ SCH-4)
MECHA G
+12V
DOWN
UP
MUTE
-5V
+5V
L
G
R
G
L
J111
AKT1011
VOLUME Assy ->
SP RY Cont.
IC3301-3303 : SURROUND & WIDE
NOTE : When the SYSTEM has "SUPER-BASS".
XRA4558F-P
IC3302
IC3303
ONLY DC-J210
USED IC1201
STK4170-2C
+40dB
IC1201 : POWER AMP
IC1201
STK4150-2C
P1301
AKB1146
SURROUND
SPEAKERS
(REAR)
FRONT
SPEAKERS
P1201 AKE1012
RY1251
A3R1035-A
L1201
ATH-133
L1202
D1256
for DISP.Assy (SPA SIG)
for AMP u-com.
for AMP u-com
IC3103 : G. E. Q.
IC3101, 3102 : B. P. F.
-14dB
for MIC MIX
from AUDITION
LA3607
IC3101
IC3102
IC3103
LC7522
from DISP.Assy
+5V
Q1252-1254, 1271, 1272 : PROTECTION
C1201, 1202
ACH1145
5600/50(DC-J210)
ACH1109
2200/42(DC-J110)
D1201
D3SBA20(A)
IC1001
MC7812CT
IC1002
MC7912CT
IC1003
NJM78M05FA
IC1005
NJM79M05FA
IC1004
NJM7912FA
23.8V
12V
5V
0V
FL AC
FL AC
SUB 1
SUB 3
SUB GND
SUB 4
SUB 2
CN102
To SUB TRANS assembly CN102 ( ⇨ SCH-7)
MAIN1
MAIN1
MAIN GND
MAIN GND
MAIN2
MAIN2
PROTECT
NC
+5.6V
FL-30V
POWER RY
-30V GND
D.GND
AC (TUNER)
AC (TUNER)
CN103
To SUB TRANS assembly CN103 ( ⇨ SCH-7)
RY1001
A3R1035
RY1002
F(1:4)
A
B
C
D
E
F

IC3301
MC14052BF

| Pin No. | Voltage (V) |
|---|---|
| 1-6 | 0 |
| 7 | -5 |
| 8 | 1.4 |
| 9-15 | 0 |
| 16 | 5 |

| Pin No. | Voltage (V) |
|---|---|
| 10 | -0.9 |
| 11 | -5 |
| 12 | 0 |
| 13 | 5 |
| 14-16 | 0 |
| 17 | -0.9 |
| 18 | -0.2 |
| 19 | -0.9 |
| 20 | -0.2 |

## 2.3 TAPE ASSEMBLY, 1 MECHA UNIT AND 2 MECHA UNIT


To AF assembly CN105 ( ⇨ SCH-2)
CN105 AKP1105
PB R
PB L
sig.GND
REC L
REC R
+5V
-5V
BIAS +12V
NC
BIAS GND
M.+12V
M.GND
MS PULSE
PB CrO2x2
REC CrO2
PB CrO2.NORx2
BIAS CONT
REC MUTE
PB MUTE
DOLBY PB/REC
PB 1/2
2 PULSE
1 PULSE
x1/x2
SOL2
MOTOR
SOL1
K10(COM 1M)
K11(COM 2M)
K00(CrO2)
TAPE assembly (AWV1318)
Q4901 : 2 MECHA MOTOR CONTROL
Q4902 : SWITCH
Q4903 : 1 MECHA MOTOR CONTROL
VR4901-4903 : TAPE SPEED ADJ.
: TAPE 1 PLAY SIGNAL
: TAPE 2 PLAY SIGNAL
: TAPE 2 REC SIGNAL
ARR
MOT B
MOT A
2 PULSE
+12V
CRO2
M.GND
SOL 2
SW COM
MODE
HALF
ARF
CN106
J106
D15A12-100-2451
A
MOT B
MOT A
1 PULSE
+12V
CRO2
M.GND
SOL 1
SW COM
MODE
HALF
CN110
J110
D15A10-100-2461
B
JP4001
+12V
JP4002
Q4904, 4905, 4910, 4911 : MECHA POWER SUPPLY
Q4906, 4907 : 1 MECHA SOLENOID DRIVE
Q4908, 4909 : 2 MECHA SOLENOID DRIVE
IC4151 : PLAYBACK AMP
IC4151 : DECK 1 EQUALIZING PREAMP
HEAD L
GND
HEAD R
CN109
C
VR4151, 4152 : PLAYBACK LEVEL ADJ.
Q4321, 4322 : REC PB SWITCH
IC4121 : PLAYBACK AMP
IC4121 : DECK 2 EQUALIZING PREAMP
HEAD R
HEAD L
GND
GND
ERASE
CN107
D
VR4121, 4122 : PLAYBACK LEVEL ADJ.
IC4202 : PB MECHA 1/2 SELECTOR
Q4208, 4209 : CONTROL
IC4201, Q420
PB
MS
VR4351, 4352 : Adjustment of frequency characteristics of RECORDING/PLAYBACK
Q4351, 4352 : CrO2/NORM. SWITCHING
Q4353, 4354 : BIAS OSC
T4351 : Adjustment of BIAS OSCILLATION FREQUENCY
Q4355 : BIAS OSCILLATION ON/OFF

IC4202
MC14066BF

| Pin No. | Voltage (V) |
|---|---|
| 1-4 | 0 |
| 5, 6 | 5 |
| 7 | -5 |
| 8-11 | 0 |
| 12, 13 | -5 |
| 14 | 5 |

IC4121, IC4151
UPC4570G2

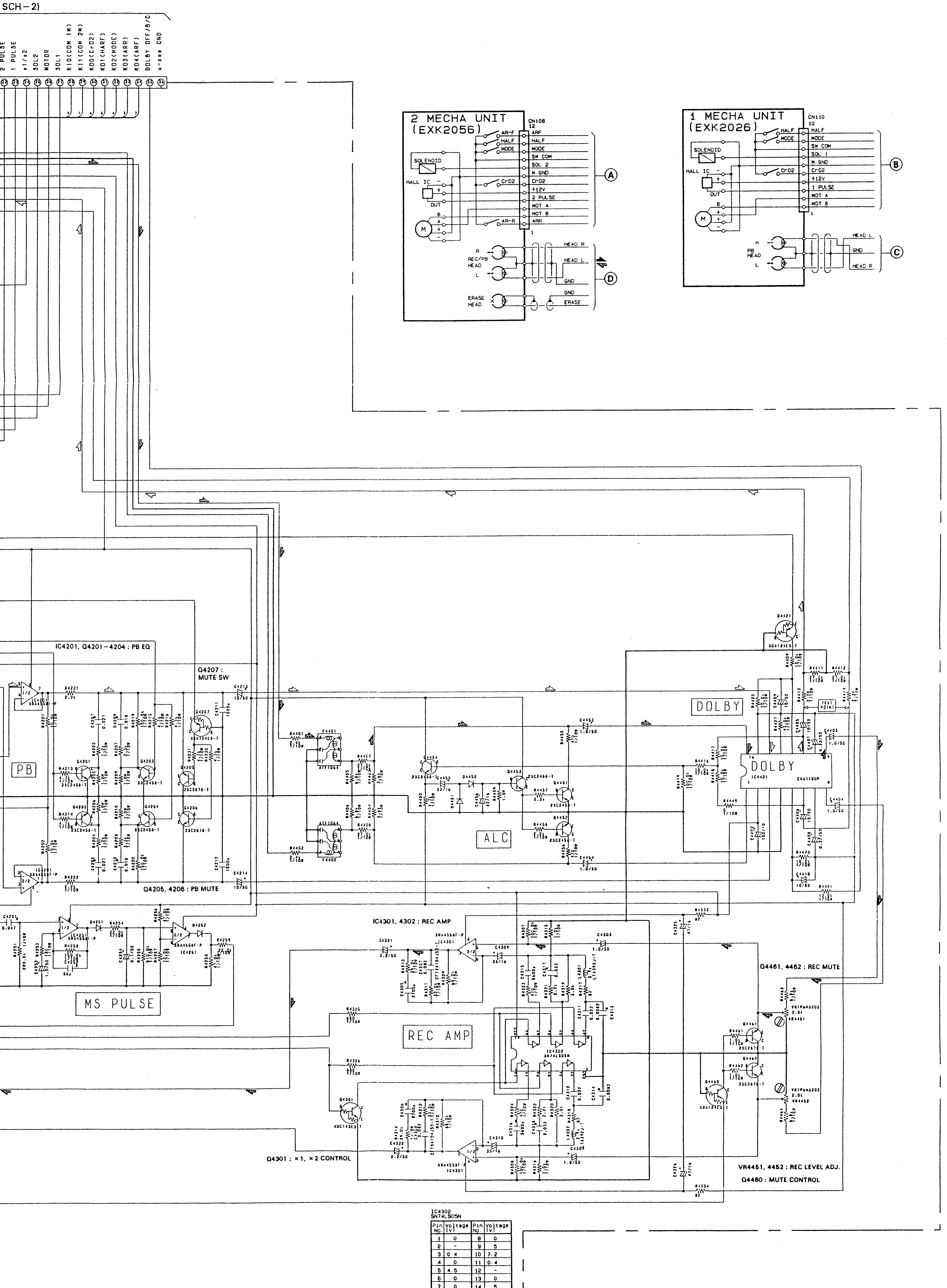
| Pin No. | Voltage (V) |
|---|---|
| 1-3 | 0 |
| 4 | -5 |
| 5-7 | 0 |
| 8 | 5 |

IC4201, IC4251, IC4301
XRA4558F-P

| Pin No. | Voltage (V) |
|---|---|
| 1-3 | 0 |
| 4 | -5 |
| 5-7 | 0 |
| 8 | 5 |

**SCH-3**

TAPE ASSEMBLY,
1 MECHA UNIT,
2 MECHA UNIT


5
6
7
8
9
B
C
D
E
F
SCH-2)
2 PULSE
1 PULSE
x1/x2
SOL2
MOTOR
SOL1
K10(COM 1M)
K11(COM 2M)
K00(CrO2)
K01(HARF)
K02(MODE)
K03(ARR)
K04(ARF)
DOLBY OFF/B/C
u-com GND
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
2 MECHA UNIT
(EXK2056)
CN108
12
AR-F
HALF
MODE
SOLENOID
HALL IC
OUT
CrO2
AR-R
M
ARF
HALF
MODE
SW COM
SOL 2
M. GND
CrO2
+12V
2 PULSE
MOT A
MOT B
ARR
1
A
R
REC/PB
HEAD
L
HEAD R
HEAD L
GND
D
ERASE
HEAD
GND
ERASE
1 MECHA UNIT
(EXK2026)
CN110
10
HALF
MODE
SOLENOID
HALL IC
OUT
CrO2
M
HALF
MODE
SW COM
SOL 1
M. GND
CrO2
+12V
1 PULSE
MOT A
MOT B
1
B
R
PB
HEAD
L
HEAD L
GND
HEAD R
C
IC4201, Q4201–4204 : PB EQ
Q4207 :
MUTE SW
PB
Q4205, 4206 : PB MUTE
MS PULSE
ALC
DOLBY
DOLBY
IC4421
CXA1100P
IC4301, 4302 : REC AMP
REC AMP
IC4302
SN74LS05N
Q4461, 4462 : REC MUTE
VR4451
VR4452
Q4301 : ×1, ×2 CONTROL
VR4451, 4452 : REC LEVEL ADJ.
Q4460 : MUTE CONTROL

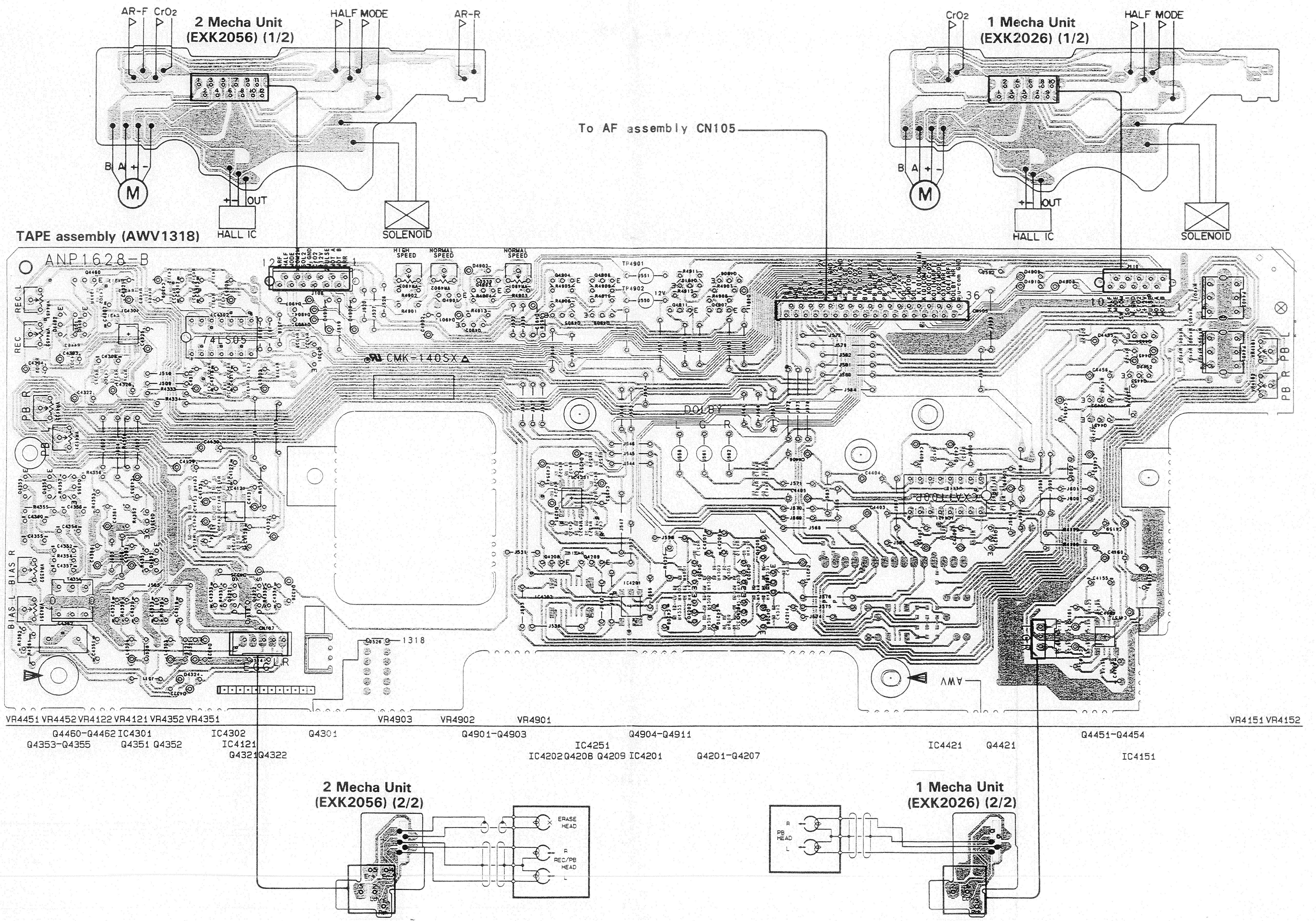
IC4302
SN74LS05N

| Pin No. | Voltage (V) | Pin No. | Voltage (V) |
|---|---|---|---|
| 1 | 0 | 8 | 0 |
| 2 | – | 9 | 5 |
| 3 | 0.4 | 10 | 7.2 |
| 4 | 0 | 11 | 0.4 |
| 5 | 4.5 | 12 | – |
| 6 | 0 | 13 | 0 |
| 7 | 0 | 14 | 5 |

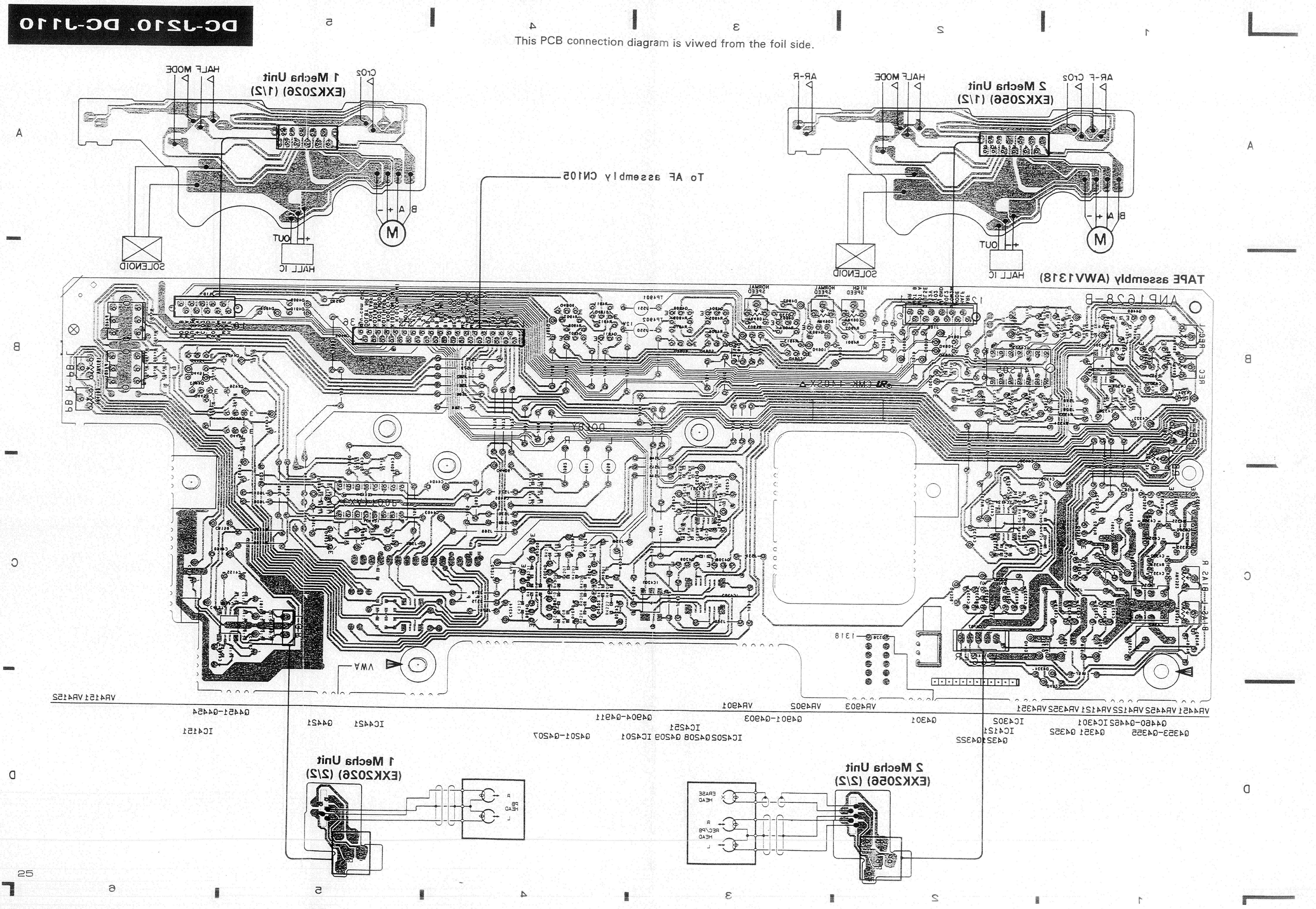
TAPE ASSEMBLY,
1 MECHA UNIT,
2 MECHA UNIT

**SCH−3**

This PCB connection diagram is viewd from the parts mounted side.

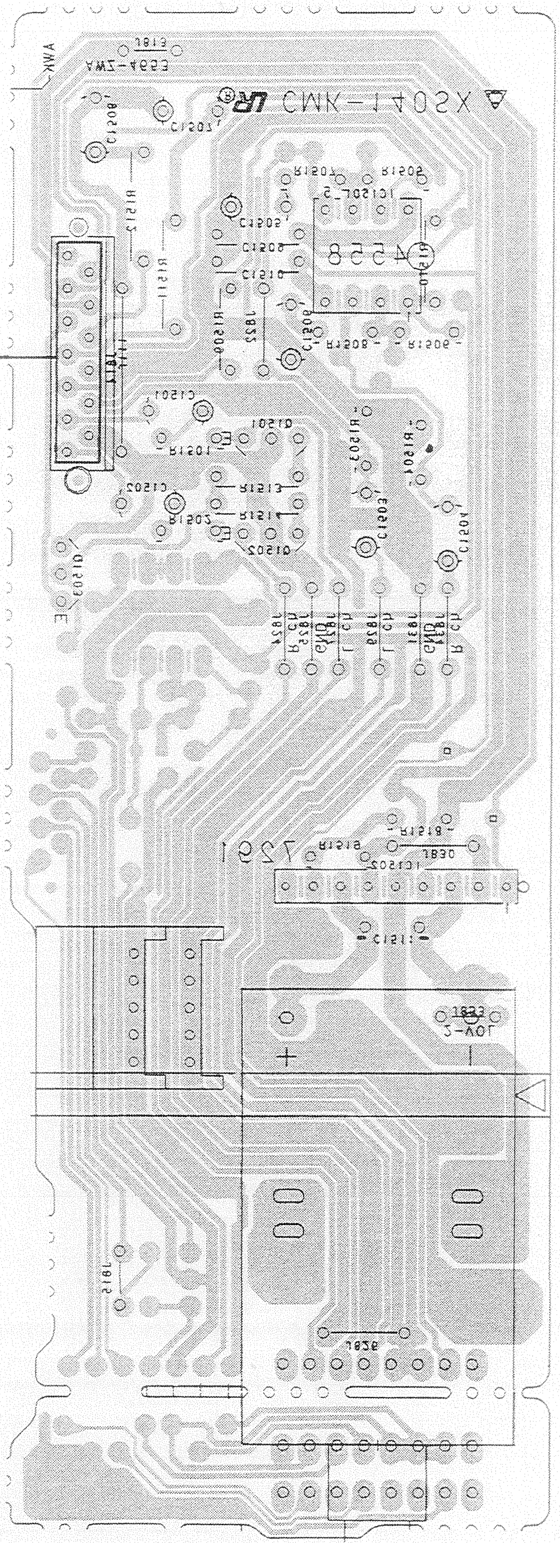

AR-F
CrO2
2 Mecha Unit
(EXK2056) (1/2)
HALF
MODE
AR-R
To AF assembly CN105
CrO2
1 Mecha Unit
(EXK2026) (1/2)
HALF
MODE
B
A
+
-
M
OUT
HALL IC
SOLENOID
TAPE assembly (AWV1318)
ANP1628-B
HIGH SPEED
NORMAL SPEED
NORMAL SPEED
74LS05
CMK-140SX
DOLBY
L
C
R
CXA1100P
REC L
REC R
PB R
PB L
BIAS R
BIAS L
PB L
PB R
1318
AWV
VR4451 VR4452 VR4122 VR4121 VR4352 VR4351
VR4903
VR4902
VR4901
VR4151 VR4152
Q4460–Q4462 IC4301
Q4353–Q4355
Q4351 Q4352
IC4302
IC4121
Q4321 Q4322
Q4301
Q4901–Q4903
IC4251
IC4202 Q4208 Q4209 IC4201
Q4904–Q4911
Q4201–Q4207
IC4421
Q4421
Q4451–Q4454
IC4151
2 Mecha Unit
(EXK2056) (2/2)
ERASE HEAD
R
REC/PB HEAD
L
1 Mecha Unit
(EXK2026) (2/2)
R
PB HEAD
L

This PCB connection diagram is viwed from the foil side.


5
4
3
2
1
A
B
C
D
6
1 Mecha Unit
(EXK2026) (1/2)
HALF MODE
CrO2
2 Mecha Unit
(EXK2056) (1/2)
AR-R
AR-F
To AF assembly CN105
SOLENOID
HALL IC
OUT
M
TAPE assembly (AWV1318)
ANP1628-B
NORMAL SPEED
HIGH SPEED
DOLBY
PB
REC
AWA
1318
VR4151 VR4152
Q4451–Q4454
IC4151
Q4421
IC4421
Q4904–Q4911
Q4201–Q4207
IC4251
IC4202 Q4208 Q4209 IC4201
VR4901
Q4901–Q4903
VR4902
VR4903
Q4301
IC4302
IC4121
Q4321 Q4322
VR4451 VR4452 VR4122 VR4121 VR4352 VR4351
Q4460–Q4465 IC4301
Q4352 Q4351 Q4353–Q4355
1 Mecha Unit
(EXK2026) (2/2)
PB HEAD
R
L
2 Mecha Unit
(EXK2056) (2/2)
ERASE HEAD
REC/PB HEAD

## 2.4 VOLUME ASSEMBLY

VOLUME assembly (AWZ4653)

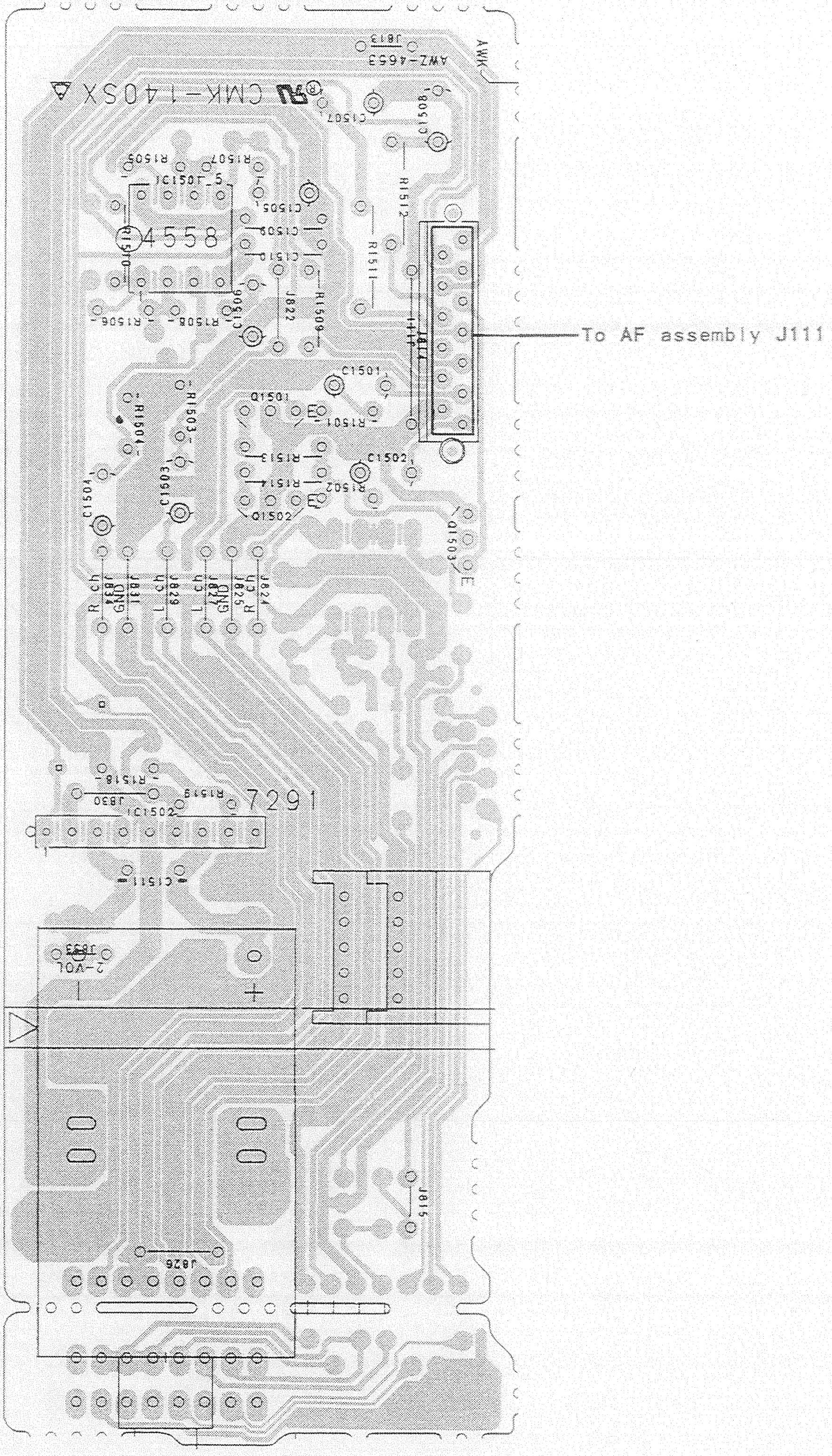

To AF assembly J111
CWX-1405
4558
IC1501
IC1502
Q1501
Q1502
Q1503
C1501
C1502
C1503
C1504
C1505
C1506
C1507
C1508
C1509
C1510
C1511
R1501
R1502
R1505
R1506
R1507
R1508
R1509
R1510
R1511
R1512
R1513
R1514
R1518
R1519
J1501
1813
1815
1822
1823
1830
2-VOL
+
−

This PCB connection diagram is viwed from the foil side.

# DC-J210, DC-J110

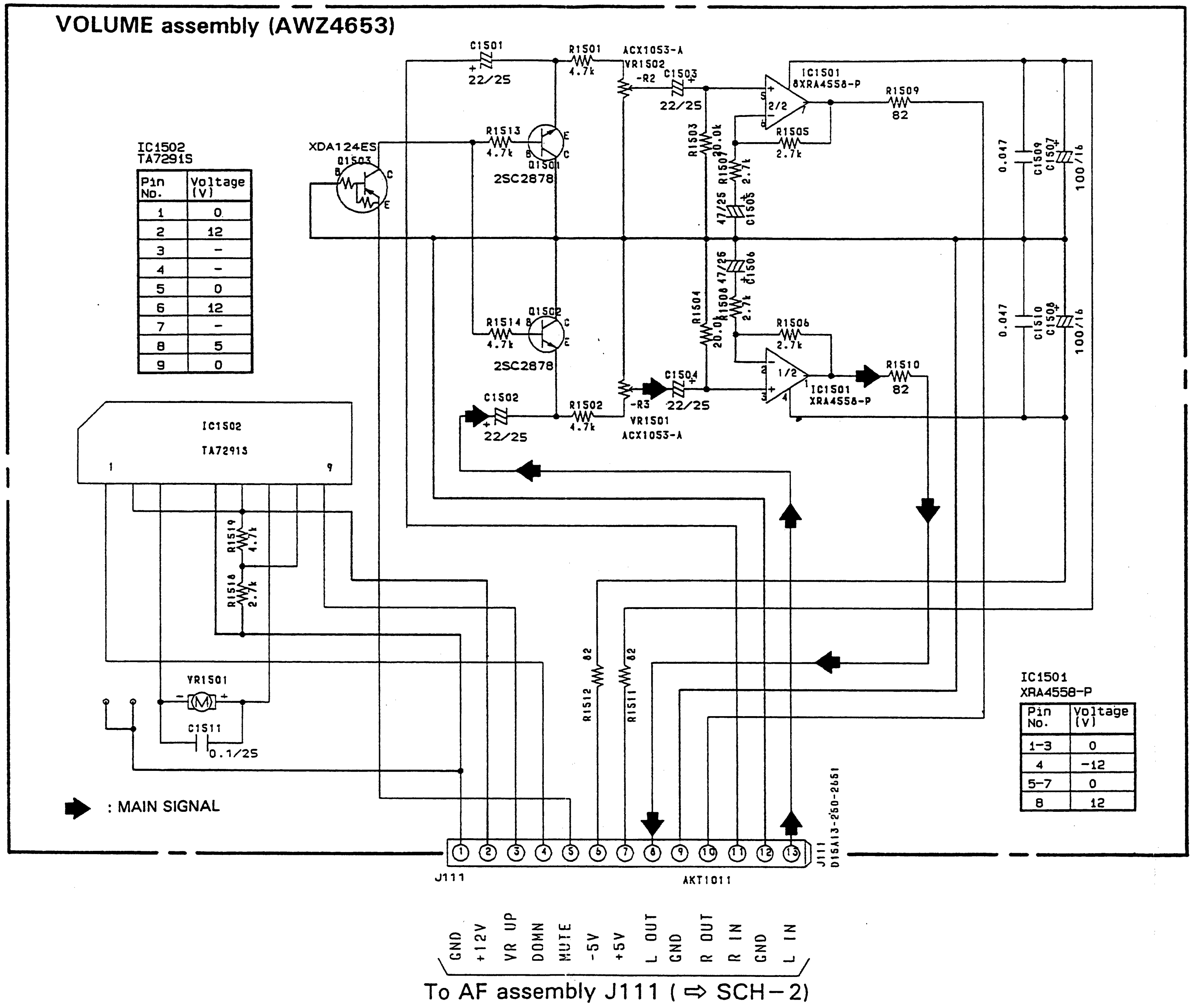
## 2.4 VOLUME ASSEMBLY

VOLUME assembly (AWZ4653)


AWZ-4653
CMK-1405X
J813
C1507
C1508
R1505
R1507
IC1501
C1505
C1509
C1510
R1510
4558
R1511
R1512
R1506
R1508
R1509
J822
J814
C1501
Q1501
R1501
R1503
R1504
R1513
R1514
C1502
R1502
Q1502
Q1503
C1503
C1504
E
R ch
J834
GND
J831
J829
L ch
J827
J825
J824
R1518
R1516
R1519
J830
IC1502
7291
C1511
J833
2-VOL
J815
J826
To AF assembly J111

This PCB connection diagram is viewd from the parts mounted side.

## VOLUME assembly (AWZ4653)


C1501
22/25
R1501
4.7k
ACX1053-A
VR1502
-R2
C1503
22/25
IC1501
8XRA4558-P
2/2
R1509
82
R1505
2.7k
R1513
4.7k
Q1501
2SC2878
XDA124ES
Q1503
R1503
20.0k
R1507
2.7k
47/25
C1505
C1506
R1508
R1504
R1506
2.7k
R1514
4.7k
Q1502
2SC2878
C1502
22/25
R1502
4.7k
VR1501
ACX1053-A
-R3
C1504
22/25
1/2
IC1501
XRA4558-P
R1510
82
0.047
C1509
C1507
100/16
C1510
C1508
IC1502
TA7291S
R1519
4.7k
R1518
2.7k
VR1501
M
C1511
0.1/25
R1512
82
R1511
82
J111
AKT1011
J111
D15A13-250-2651
: MAIN SIGNAL
GND
+12V
VR UP
DOWN
MUTE
-5V
+5V
L OUT
GND
R OUT
R IN
GND
L IN
To AF assembly J111 (⇨ SCH−2)

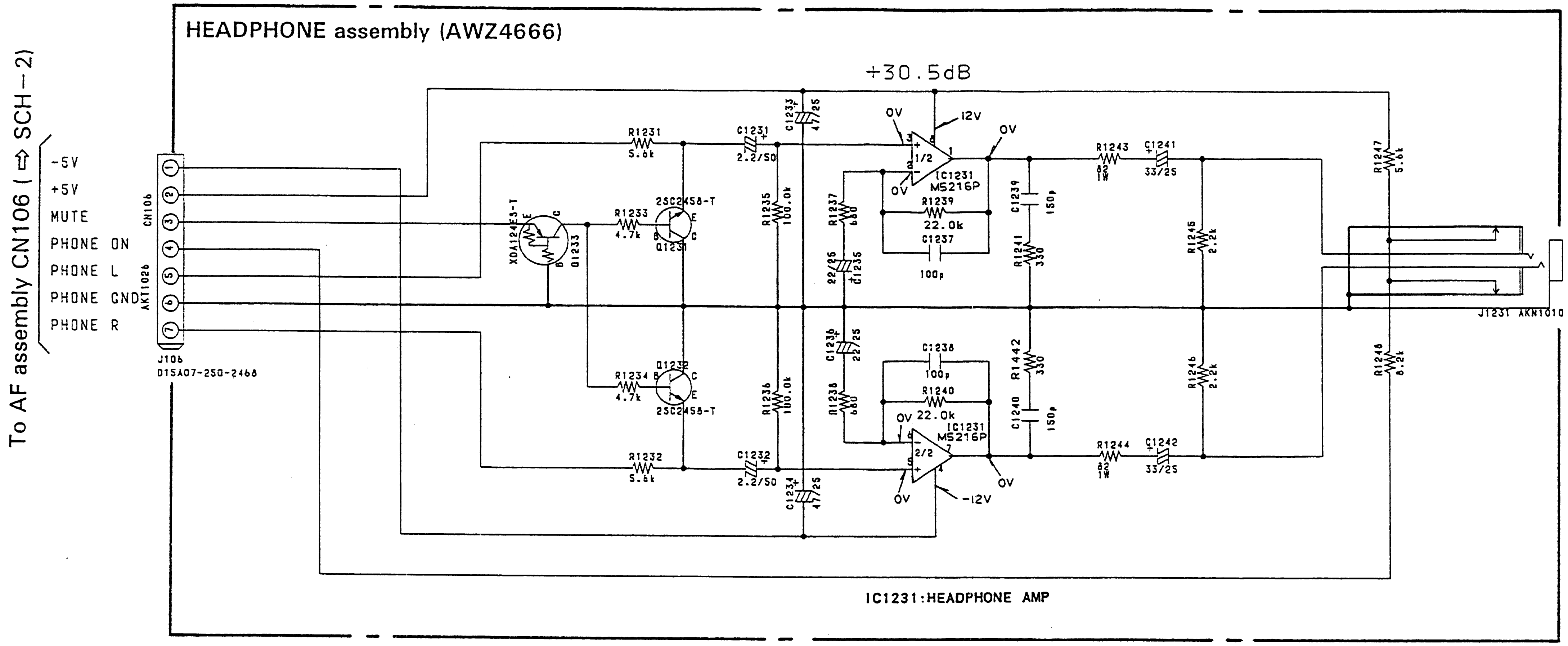
IC1502
TA7291S

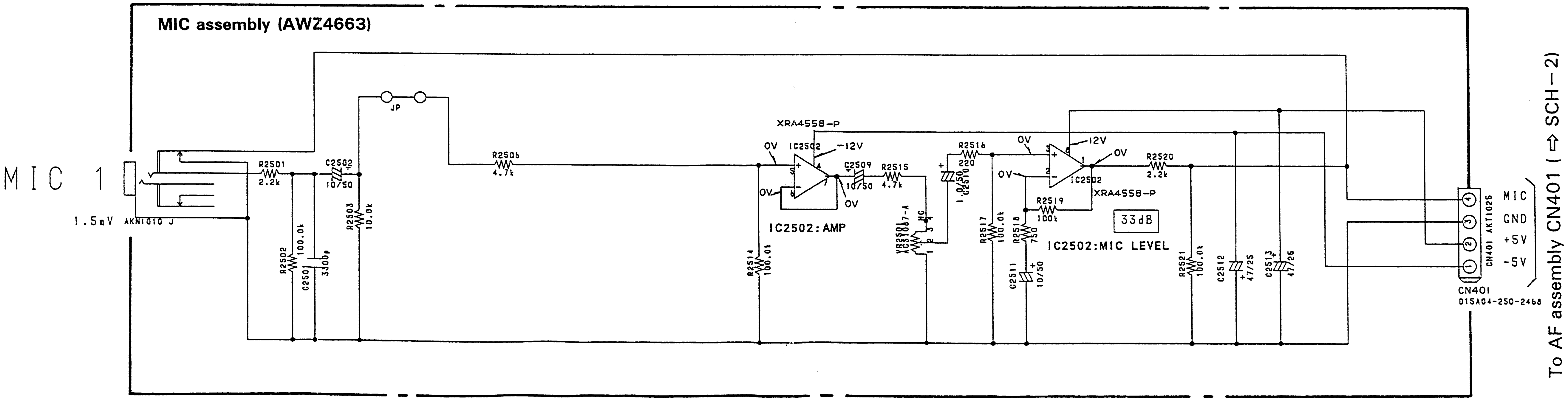
| Pin No. | Voltage (V) |
|---|---|
| 1 | 0 |
| 2 | 12 |
| 3 | – |
| 4 | – |
| 5 | 0 |
| 6 | 12 |
| 7 | – |
| 8 | 5 |
| 9 | 0 |

IC1501
XRA4558-P

| Pin No. | Voltage (V) |
|---|---|
| 1-3 | 0 |
| 4 | -12 |
| 5-7 | 0 |
| 8 | 12 |

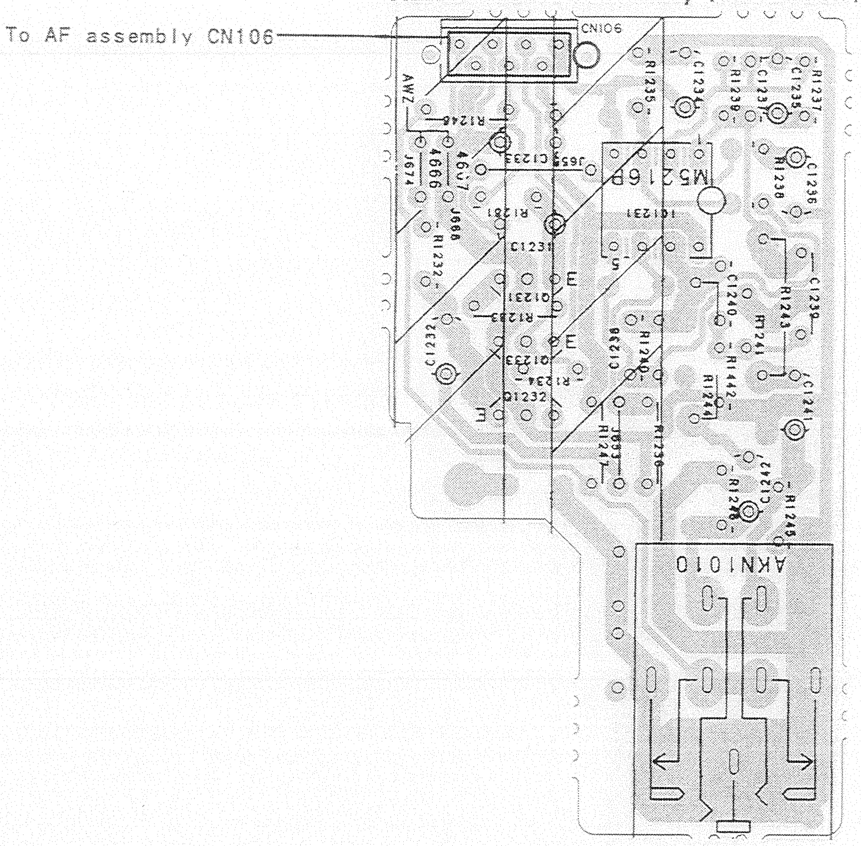
## 2.5 HEADPHONE ASSEMBLY AND MIC ASSEMBLY


HEADPHONE assembly (AWZ4666)
To AF assembly CN106 (⇨ SCH−2)
-5V
+5V
MUTE
PHONE ON
PHONE L
PHONE GND
PHONE R
CN106
AKT1026
J106
D1SA07-250-2468
XDA124ES-T
Q1233
R1233 4.7k
2SC2458-T
Q1231
Q1232
R1234 4.7k
2SC2458-T
R1231 5.6k
R1232 5.6k
C1231 2.2/50
C1232 2.2/50
R1235 100.0k
R1236 100.0k
C1233 47/25
C1234 47/25
+30.5dB
0V
12V
-12V
IC1231 M5216P
1/2
2/2
R1237 680
R1238 680
C1235 22/25
C1236 22/25
R1239 22.0k
R1240 22.0k
C1237 100p
C1238 100p
C1239 150p
C1240 150p
R1241 330
R1442 330
R1243 82 1W
R1244 82 1W
C1241 33/25
C1242 33/25
R1245 2.2k
R1246 2.2k
R1247 5.6k
R1248 8.2k
J1231 AKN1010
IC1231:HEADPHONE AMP

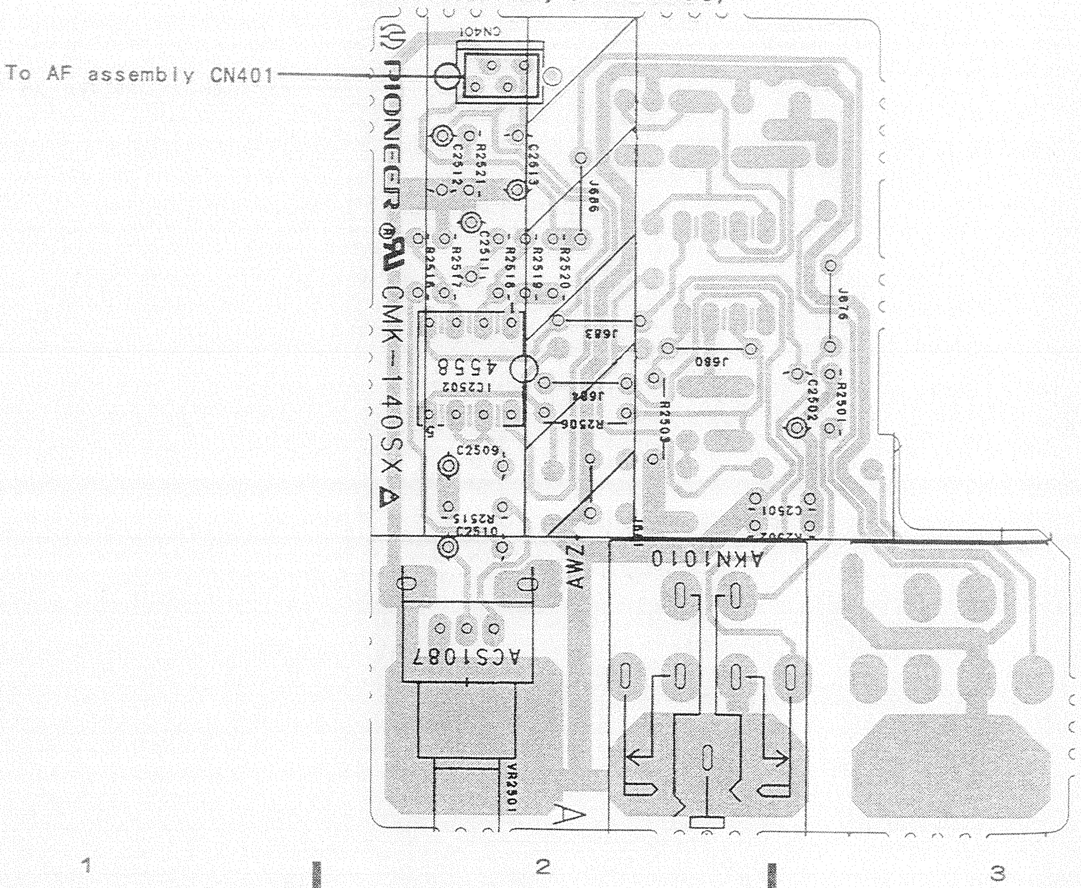

MIC assembly (AWZ4663)
MIC 1
1.5mV AKN1010 J
R2501 2.2k
R2502 100.0k
C2501 3300p
C2502 10/50
R2503 10.0k
JP
R2506 4.7k
XRA4558-P
IC2502
0V
-12V
12V
R2514 100.0k
C2509 10/50
IC2502:AMP
R2515 4.7k
VR2501 XCS1087-A
NC
C2510 1.0/50
R2516 220
R2517 100.0k
R2518 750
C2511 10/50
R2519 100k
33dB
IC2502:MIC LEVEL
R2520 2.2k
R2521 100.0k
C2512 47/25
C2513 47/25
CN401 AKT1025
CN401
D1SA04-250-2468
MIC
GND
+5V
-5V
To AF assembly CN401 (⇨ SCH−2)

This PCB connection diagram is viewd from the parts mounted side.

## HEADPHONE assembly (AWZ4666)

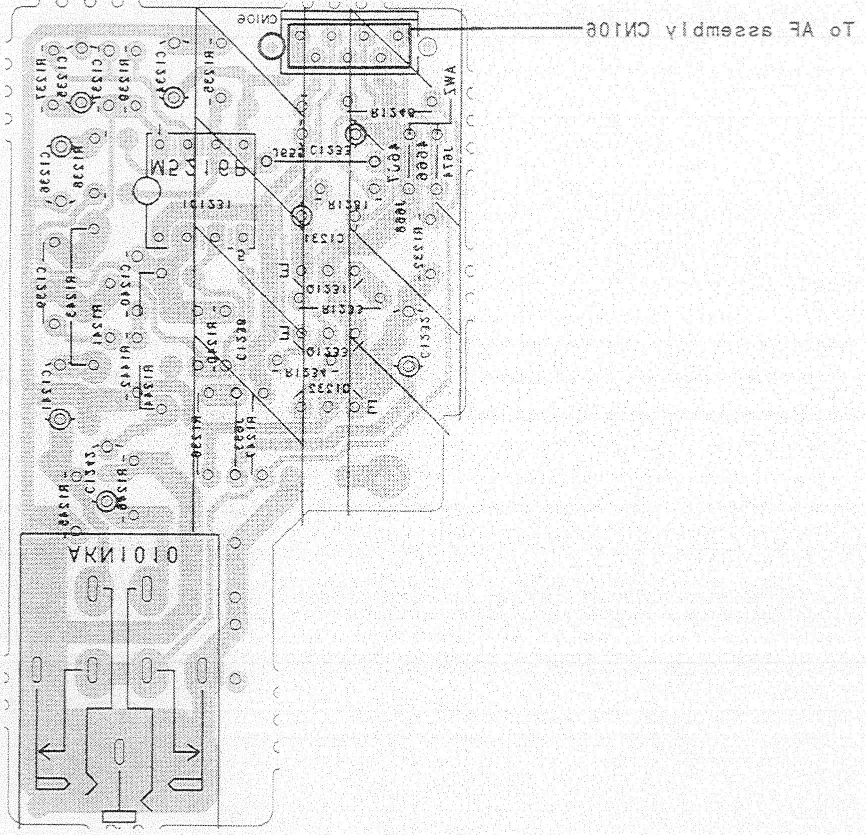

To AF assembly CN106
CN106
AWZ
4666
J674
R1246
46U7
J668
R1232
C1232
C1233
J655
R1231
C1231
Q1231
R1233
Q1233
R1234
Q1232
E
E
E
R1235
C1234
R1239
C1237
C1235
R1237
M5216B
IC1231
R1238
C1236
C1240
R1243
C1239
C1238
R1240
R1241
R1442
R1244
C1241
J683
R1247
R1236
C1242
R1242
R1245
AKN1010

## MIC assembly (AWZ4663)

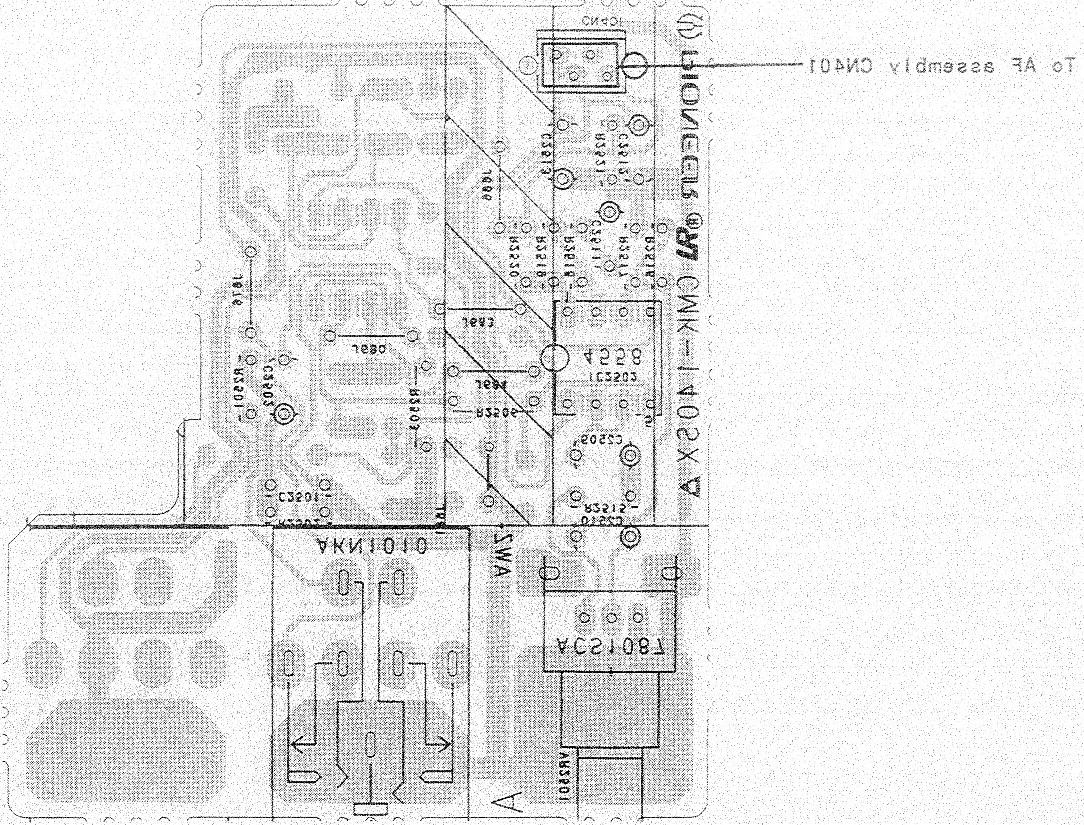

To AF assembly CN401
CN401
PIONEER
CMK-140SXA
R2521
C2512
C2513
C2511
R2517
R2518
R2516
R2519
R2520
J686
J683
4558
IC2502
J684
R2506
R2503
J680
J676
C2502
R2501
C2509
R2515
C2510
C2501
R2502
AWZ
AKN1010
ACS1087
VR2501
A

This PCB connection diagram is viwed from the foil side.

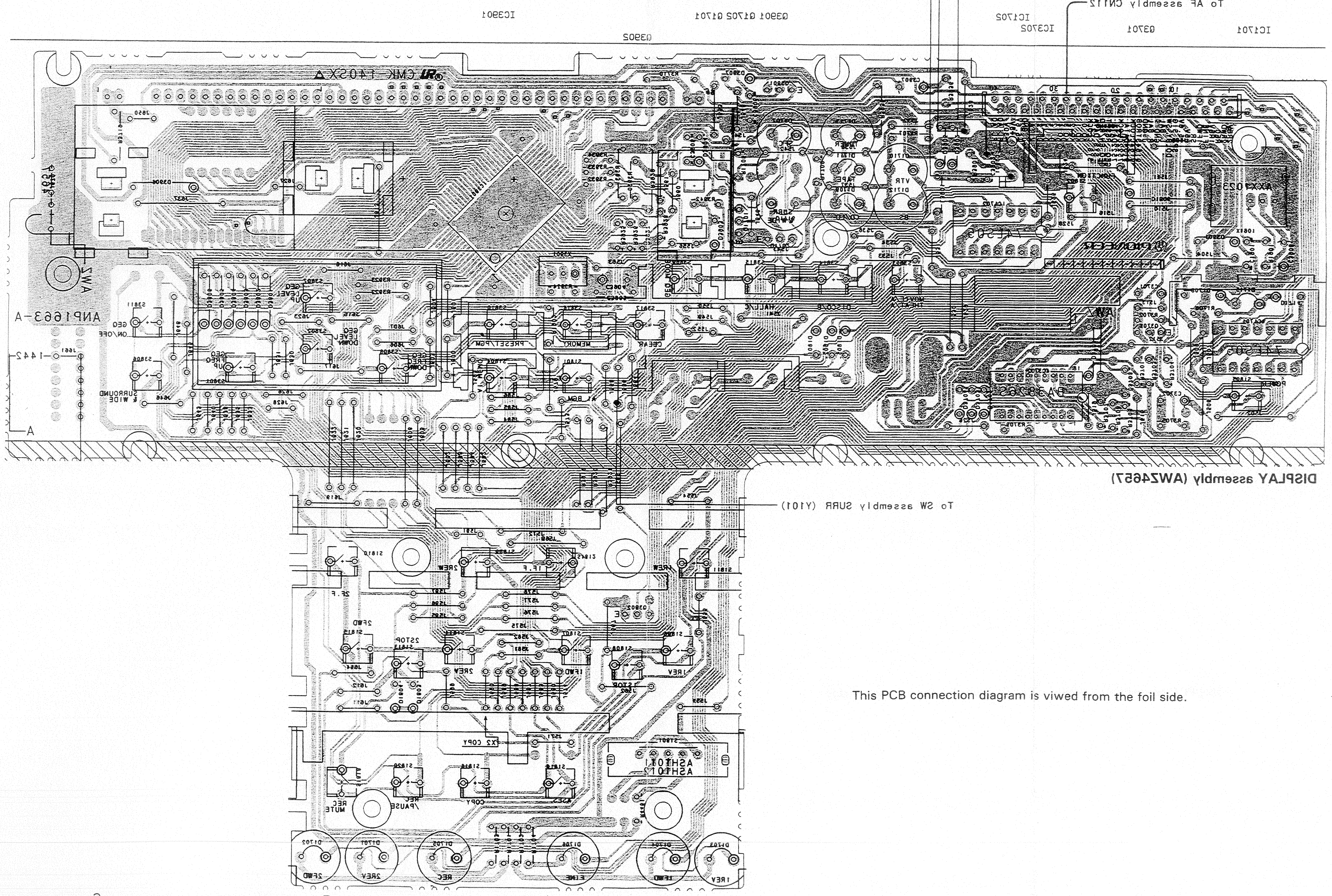
HEADPHONE assembly (AWZ4666)


To AF assembly CN106
CN106
AKN1010
M5218
IC1231
IC1232

MIC assembly (AWZ4663)


To AF assembly CN401
CN401
PIONEER
AXS041-MK1 CMK
4558
IC2502
AKN1010
ACS1087
VR2501

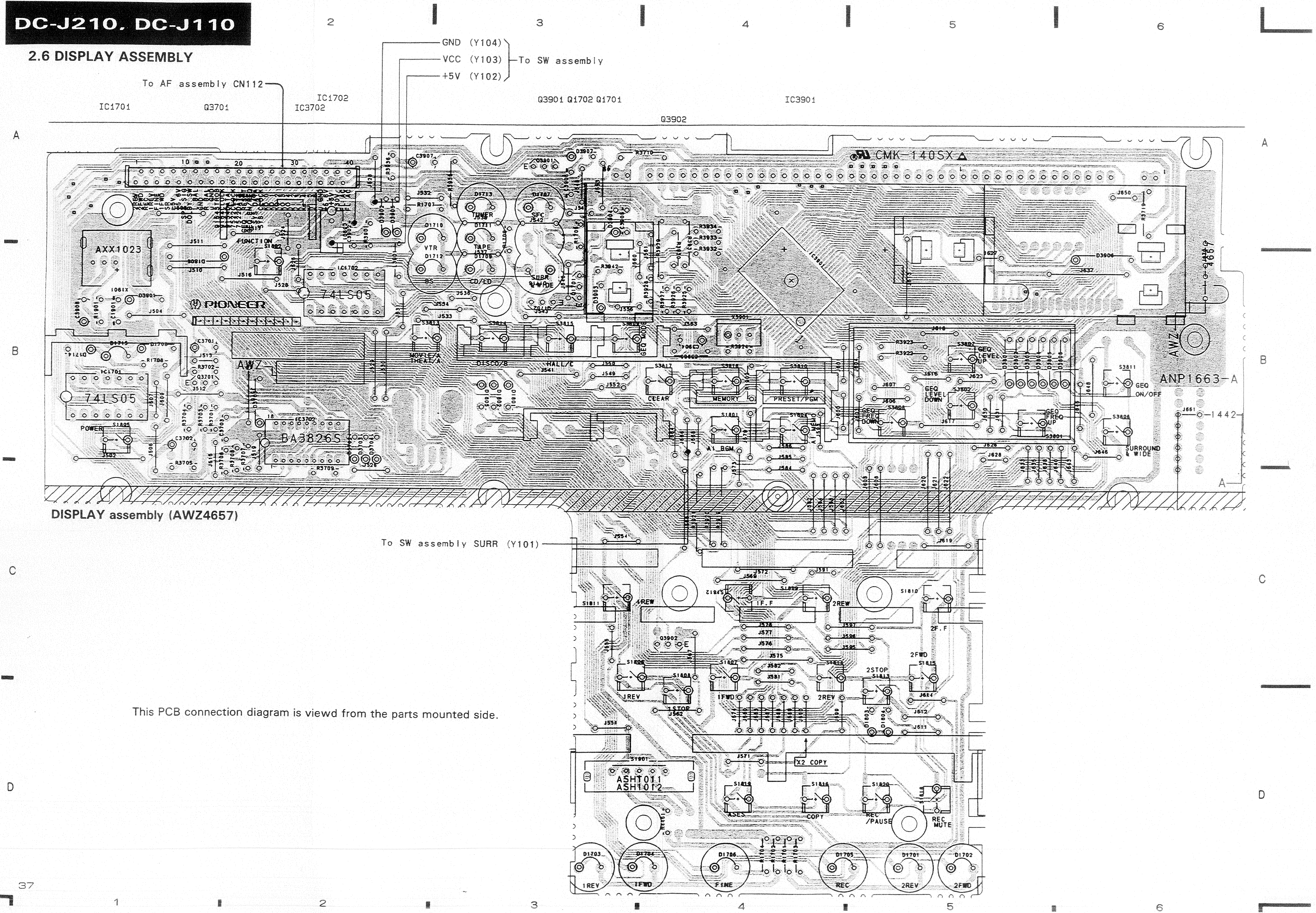
## 2.6 DISPLAY ASSEMBLY


GND (Y104)
VCC (Y103)
+5V (Y102)
To SW assembly
To AF assembly CN112
IC3901
Q3901 Q1702 Q1701
IC1702
IC3702
Q3701
IC1701
Q3902
To SW assembly SURR (Y101)
ANP1663-A
AWZ
GEO ON/OFF
SURROUND & WIDE
GEO LEVEL UP
GEO LEVEL DOWN
GEO FREQ UP
GEO FREQ DOWN
PRESET/PGM
MEMORY
CLEAR
PIONEER
TAPE
VTR
DOLBY NR
2FWD
2REV
REC
EJECT
1FWD
1REV
2STOP
1STOP
2REW
1REW
2F.F
1F.F
X2 COPY
REC MUTE
REC /PAUSE
COPY
ASH1011
ASH1012
A
B
C
D
1
2
3
4
5
6

DISPLAY assembly (AWZ4657)

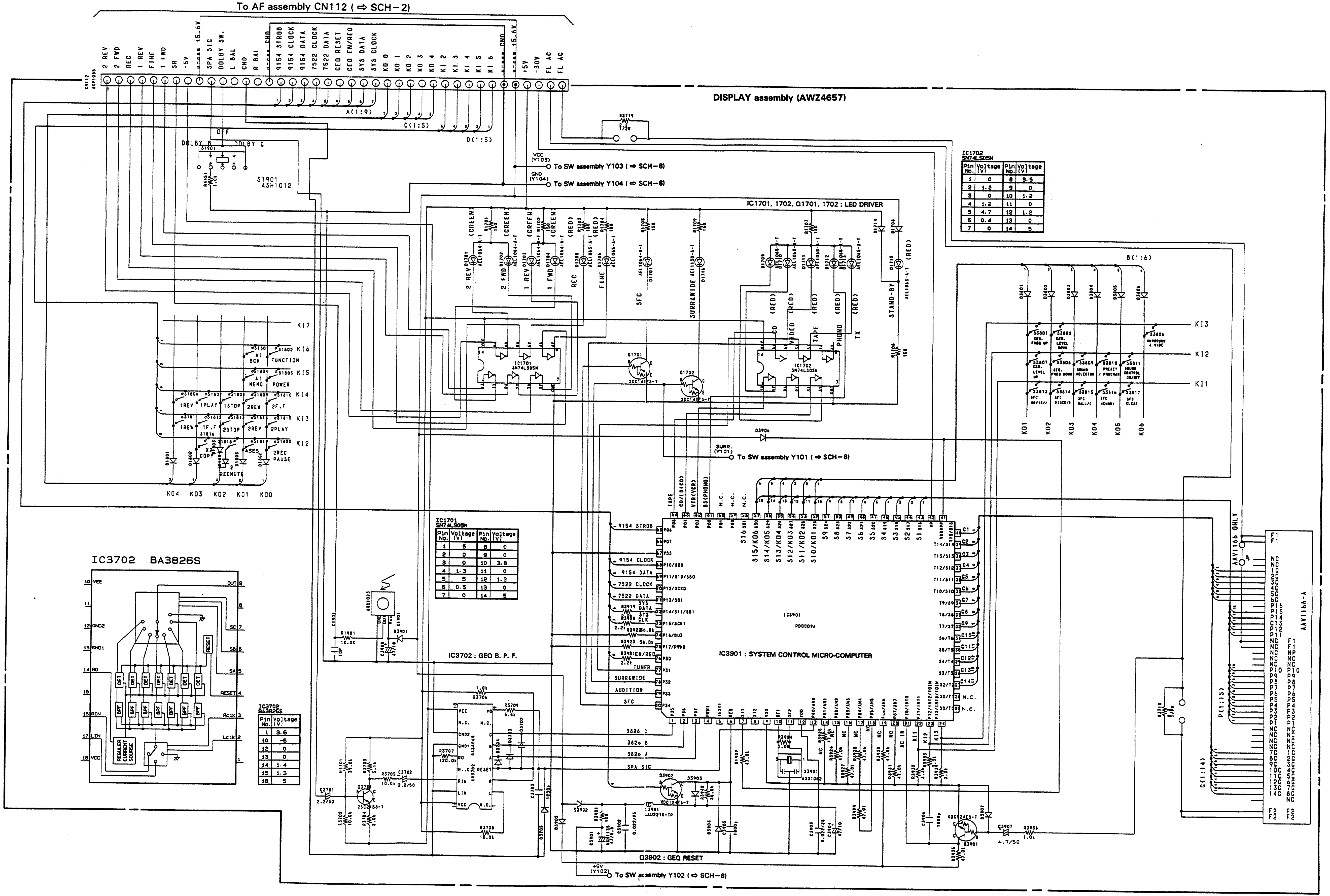
This PCB connection diagram is viwed from the foil side.

## 2.6 DISPLAY ASSEMBLY


GND (Y104)
VCC (Y103)
+5V (Y102)
To SW assembly
To AF assembly CN112
IC1701
Q3701
IC3702
IC1702
Q3901 Q1702 Q1701
IC3901
Q3902
CMK-140SX
AXX1023
FUNCTION
74LS05
PIONEER
AWZ
POWER
BA3826S
VTR
TAPE
TUNER
SFC
BS
CD/LD
SURR & WIDE
MOVIE/A THEAT/A
DISCO/B
HALL/C
GEQ MODE
CLEAR
MEMORY
PRESET/PGM
A1 BGM
GEQ LEVEL UP
GEQ LEVEL DOWN
GEQ FREQ DOWN
GEQ FREQ UP
GEQ ON/OFF
SURROUND & WIDE
AWZ 4657
ANP1663-A
1442
A
B
C
D
1
2
3
4
5
6
To SW assembly SURR (Y101)
4REW
1F.F
2REW
2F.F
2FWD
2STOP
1REV
1STOP
1FWD
2REV
X2 COPY
ASHT011
ASHT012
COPY
REC /PAUSE
REC MUTE
1REV
1FWD
FINE
REC
2REV
2FWD

**DISPLAY assembly (AWZ4657)**

This PCB connection diagram is viewd from the parts mounted side.


To AF assembly CN112 (⇨ SCH−2)
CN112 AKP1085
2 REV
2 FWD
REC
1 REV
FINE
1 FWD
SR
-5V
SPA SIG
DOLBY SW.
L BAL
GND
R BAL
9154 STROB
9154 CLOCK
9154 DATA
7522 CLOCK
7522 DATA
GEQ RESET
GEQ EN/REQ
SYS DATA
SYS CLOCK
KO 0
KO 1
KO 2
KO 3
KO 4
KI 2
KI 3
KI 4
KI 5
KI 6
+5V
-30V
FL AC
FL AC
DISPLAY assembly (AWZ4657)
A(1:9)
C(1:5)
D(1:5)
OFF
DOLBY B
DOLBY C
S1901 ASH1012
VCC (Y103)
To SW assembly Y103 (⇨ SCH−8)
GND (Y104)
To SW assembly Y104 (⇨ SCH−8)
IC1701, 1702, Q1701, 1702 : LED DRIVER
(GREEN)
(RED)
2 REV
2 FWD
1 REV
1 FWD
REC
FINE
SFC
SURR&WIDE
STAND-BY
CD
VIDEO
TAPE
PHONO
TX
IC1701 SN74LS05N
IC1702 SN74LS05N
Q1701
Q1702
B(1:6)
K13
K12
K11
K17
K16
K15
K14
K13
K12
BCM
FUNCTION
MEMO
POWER
1REV
1PLAY
1STOP
2REW
2F.F
1REW
1F.F
2STOP
2REV
2PLAY
COPY
ASES
2REC PAUSE
RECMUTE
K04
K03
K02
K01
K00
KO1
KO2
KO3
KO4
KO5
KO6
D3906
SURR. (Y101)
To SW assembly Y101 (⇨ SCH−8)
TAPE
CD/LD(CD)
VTR(VCR)
B3(PHONO)
N.C.
9154 STROB
9154 CLOCK
9154 DATA
7522 CLOCK
7522 DATA
SYS DATA
SYS CLK
EN/REQ
TUNER
SURR&WIDE
AUDITION
SFC
3826 C
3826 B
3826 A
SPA SIG
IC3901
PDC009A
IC3901 : SYSTEM CONTROL MICRO-COMPUTER
AAV1166 ONLY
AAV1166-A
P(1:15)
C(1:14)
F1
F2
IC3702 BA3826S
VEE
GND2
GND1
RO
RIN
LIN
VCC
OUT
SC
SB
SA
RESET
Rc1k
Lc1k
DET
BPF
REGULATED CURRENT SOURSE
IC3702 : GEQ B. P. F.
Q3902 : GEQ RESET
+5V (Y102)
To SW assembly Y102 (⇨ SCH−8)
X3901
Q3901
Q3902
Q3701

IC1702
SN74LS05N

| Pin No. | Voltage (V) | Pin No. | Voltage (V) |
|---|---|---|---|
| 1 | 0 | 8 | 3.5 |
| 2 | 1.2 | 9 | 0 |
| 3 | 0 | 10 | 1.2 |
| 4 | 1.2 | 11 | 0 |
| 5 | 4.7 | 12 | 1.2 |
| 6 | 0.4 | 13 | 0 |
| 7 | 0 | 14 | 5 |

IC1701
SN74LS05N

| Pin No. | Voltage (V) | Pin No. | Voltage (V) |
|---|---|---|---|
| 1 | 5 | 8 | 0 |
| 2 | 0 | 9 | 0 |
| 3 | 0 | 10 | 3.8 |
| 4 | 1.3 | 11 | 0 |
| 5 | 5 | 12 | 1.3 |
| 6 | 0.5 | 13 | 0 |
| 7 | 0 | 14 | 5 |

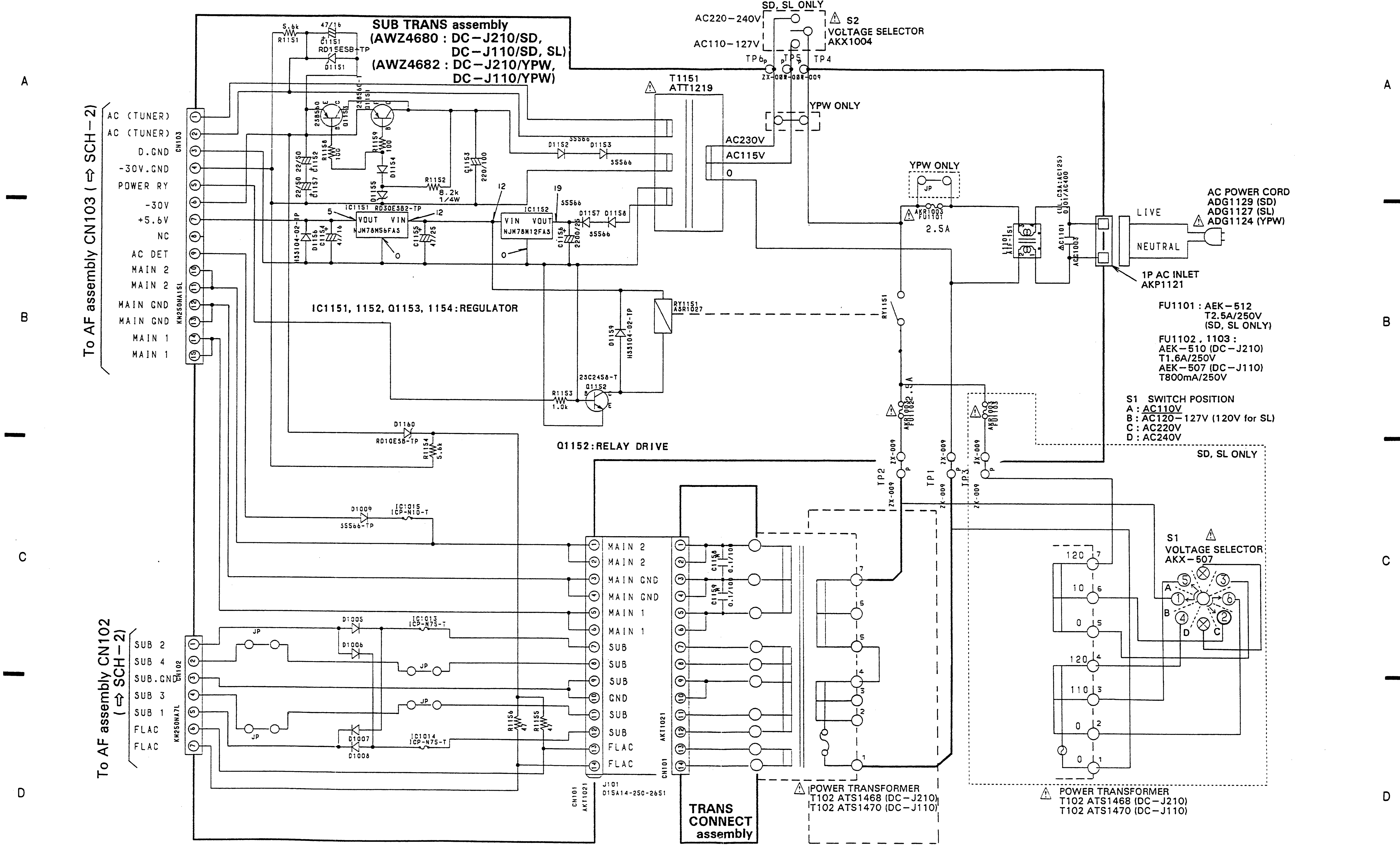
IC3702
BA3826S

| Pin No. | Voltage (V) |
|---|---|
| 1 | 3.6 |
| 10 | -5 |
| 12 | 0 |
| 13 | 0 |
| 14 | 1.4 |
| 15 | 1.3 |
| 18 | 5 |

**SCH−6** DISPLAY ASSEMBLY

DISPLAY ASSEMBLY **SCH−6**

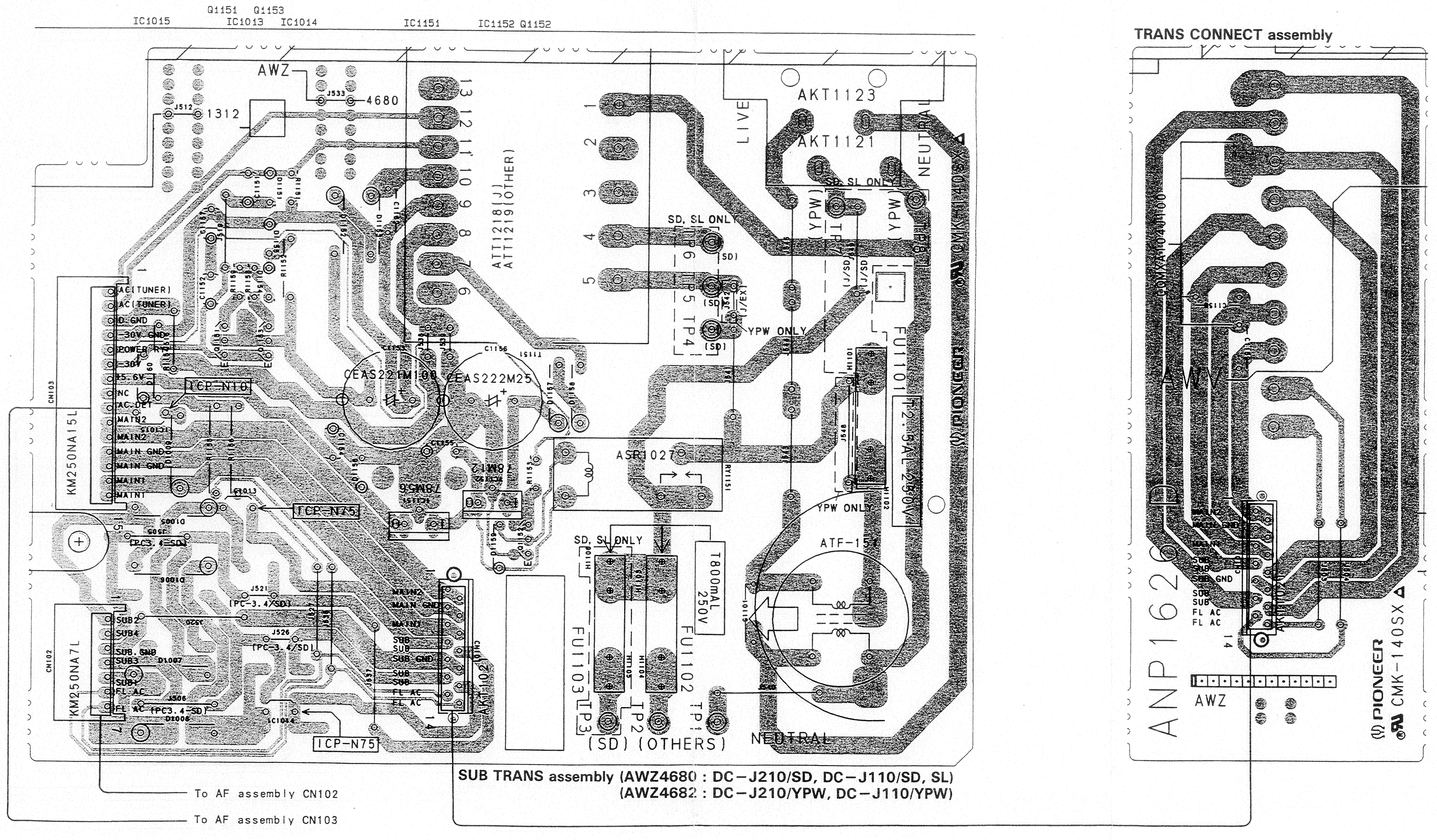
## 2.7 SUB TRANS ASSEMBLY AND TRANS CONNECT ASSEMBLY


SUB TRANS assembly
(AWZ4680 : DC−J210/SD, DC−J110/SD, SL)
(AWZ4682 : DC−J210/YPW, DC−J110/YPW)
To AF assembly CN103 (⇨ SCH−2)
AC (TUNER)
AC (TUNER)
D.GND
-30V.GND
POWER RY
-30V
+5.6V
NC
AC DET
MAIN 2
MAIN 2
MAIN GND
MAIN GND
MAIN 1
MAIN 1
CN103
KH250NA15L
R1151 5.6k
C1151 47/16
RD15ESB-TP
D1151
2SB560
Q1151
2SD560(−)
Q1153
R1158 100
R1159 100
C1152 22/50
C1157 22/50
D1154
D1155
R1152 8.2k 1/4W
C1153 220/100
D1152 SS566
D1153 SS566
IC1151 RD30ESB2-TP
VOUT VIN
NJM78M56FAS
IC1152
VIN VOUT
NJM78M12FAS
C1154 47/16
C1155 47/25
C1156 2200/25
D1156 H3104-02-TP
D1157 D1158 SS566
IC1151, 1152, Q1153, 1154:REGULATOR
T1151 ATT1219
RY1151 ASR1027
D1159 H33104-02-TP
2SC2458-T
Q1152
R1153 1.0k
Q1152:RELAY DRIVE
D1160 RD10ESB-TP
R1154 5.6k
D1009 SS566-TP
IC1015 ICP-N10-T
SD, SL ONLY
AC220−240V
AC110−127V
S2 VOLTAGE SELECTOR AKX1004
TP6 TP5 TP4
ZX-009
YPW ONLY
AC230V
AC115V
0
JP
FU1101 AKR1003
2.5A
L1101 ATF1151
AC1101 (UL.CSA:AC125) 0.01/AC400
AC1002
LIVE
NEUTRAL
AC POWER CORD
ADG1129 (SD)
ADG1127 (SL)
ADG1124 (YPW)
1P AC INLET AKP1121
FU1101 : AEK−512 T2.5A/250V (SD, SL ONLY)
FU1102, 1103 : AEK−510 (DC−J210) T1.6A/250V AEK−507 (DC−J110) T800mA/250V
S1 SWITCH POSITION
A : AC110V
B : AC120−127V (120V for SL)
C : AC220V
D : AC240V
FU1102
FU1103
TP2 TP1 TP3
S1 VOLTAGE SELECTOR AKX−507
120 10 0 120 110 0 0
A B C D
To AF assembly CN102 (⇨ SCH−2)
SUB 2
SUB 4
SUB.GND
SUB 3
SUB 1
FLAC
FLAC
CN102
KH250NA7L
JP
D1005 D1006 D1007 D1008
IC1013 ICP-N75-T
IC1014 ICP-N75-T
R1156 47
R1155 47
MAIN 2
MAIN 2
MAIN GND
MAIN GND
MAIN 1
MAIN 1
SUB
SUB
SUB
GND
SUB
SUB
FLAC
FLAC
J101 D15A14-250-2651
CN101 AKT1021
C1158 0.1/100
C1159 0.1/100
TRANS CONNECT assembly
POWER TRANSFORMER T102 ATS1468 (DC−J210) T102 ATS1470 (DC−J110)
YPW ONLY
SD, SL ONLY

SUB TRANS ASSEMBLY,
TRANS CONNECT ASSEMBLY

SUB TRANS ASSEMBLY,
TRANS CONNECT ASSEMBLY

This PCB connection diagram is viewd from the parts mounted side.

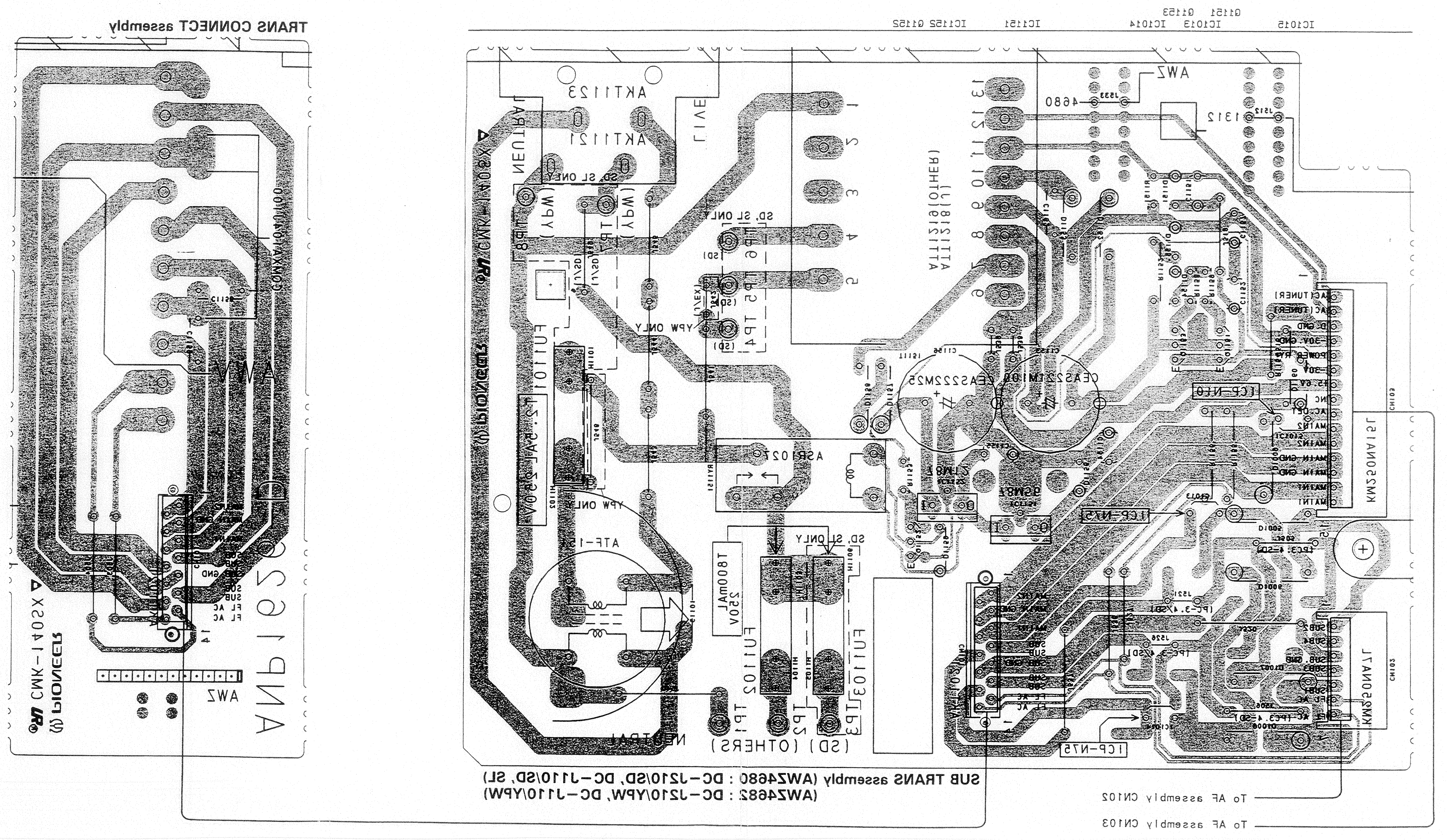

IC1015
Q1151
Q1153
IC1013
IC1014
IC1151
IC1152 Q1152
TRANS CONNECT assembly
AWZ
J533
4680
J512
1312
13
12
11
10
9
8
7
6
ATT1218(J)
ATT1219(OTHER)
1
2
3
4
5
SD, SL ONLY
TP6
TP5
TP4
(SD)
(J/EX)
YPW ONLY
LIVE
AKT1123
AKT1121
NEUTRAL
SD, SL ONLY
(YPW)
TP7
(J/SD)
FU1101
T2.5AL 250V
PIONEER
CMK-140SX
AC(TUNER)
AC(TUNER)
D.GND
-30V GND
POWER RY
-30V
+5.6V
NC
AC.DET
MAIN2
MAIN2
MAIN GND
MAIN GND
MAIN1
MAIN1
CN103
KM250NA15L
ICP-N10
CEAS221M100
CEAS222M25
C1153
C1156
C1155
ASR1027
RY1151
78M12
78M56
ICP-N75
PC3.4-SD
SD, SL ONLY
FU1103
T800mAL 250V
FU1102
TP3
TP2
TP1
(SD) (OTHERS)
NEUTRAL
YPW ONLY
ATF-157
J521
PC-3.4/SD
J526
PC-3.4/SD
J506
PC3.4-SD
IC1014
ICP-N75
SUB2
SUB4
SUB. GND
SUB3
SUB1
FL AC
FL AC
CN102
KM250NA7L
MAIN2
MAIN GND
MAIN1
SUB
SUB
SUB GND
SUB
SUB
FL AC
FL AC
AKP1021
14
CONAX4A04100
AWV
ANP1620
SUB
SUB
SUB GND
SUB
SUB
FL AC
FL AC
14
AWZ
PIONEER
CMK-140SX

To AF assembly CN102

To AF assembly CN103

**SUB TRANS assembly (AWZ4680 : DC–J210/SD, DC–J110/SD, SL)**
**(AWZ4682 : DC–J210/YPW, DC–J110/YPW)**

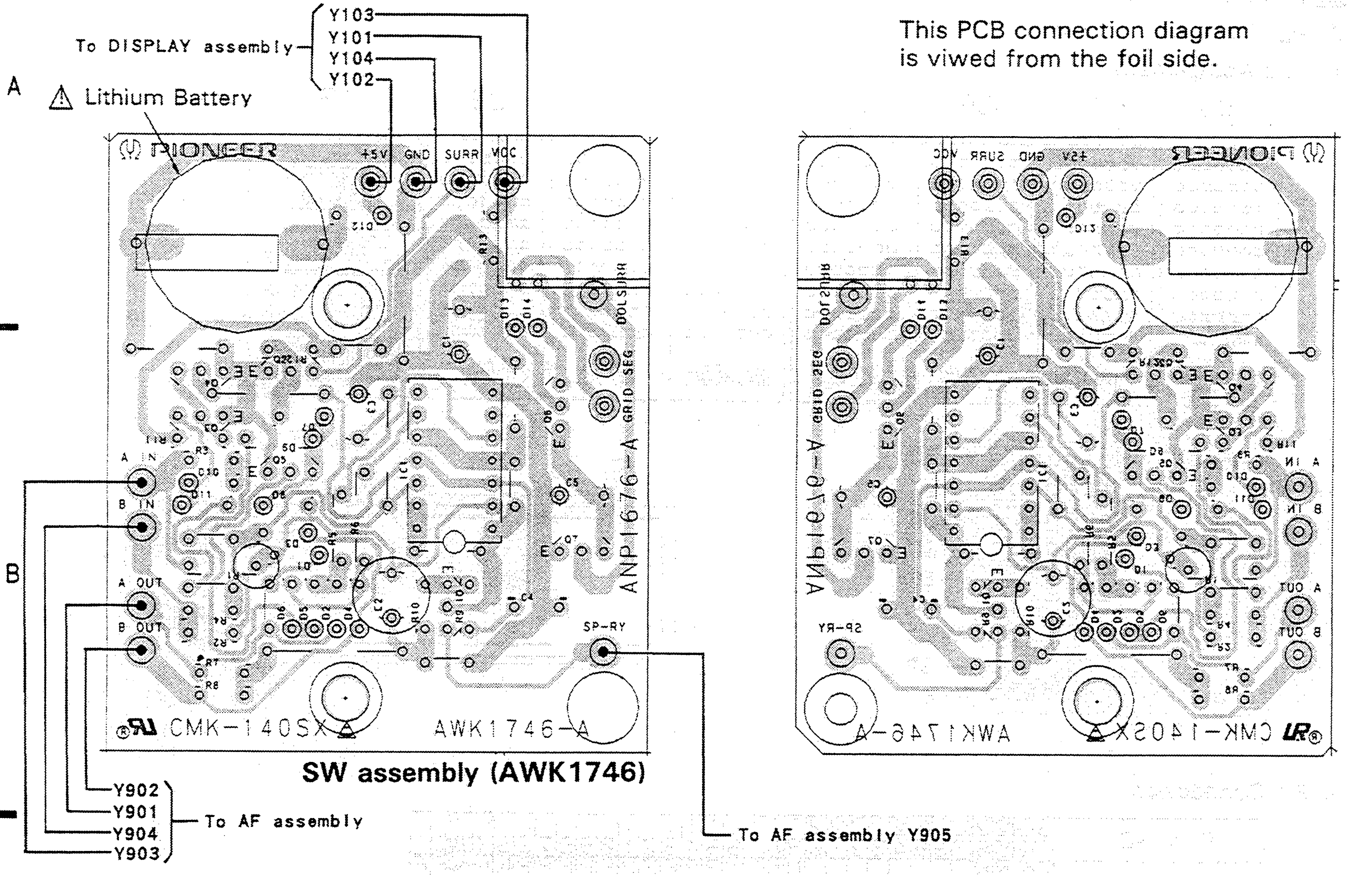
This PCB connection diagram is viwed from the foil side.


TRANS CONNECT assembly
SUB TRANS assembly (AWZ4680 : DC-J210/SD, DC-J110/SD, SL)
(AWZ4682 : DC-J210/YPW, DC-J110/YPW)
To AF assembly CN102
To AF assembly CN103
IC1015
IC1013
IC1014
IC1151
IC1152
Q1152
Q1151
Q1153
AWZ
AKT1123
AKT1121
NEUTRAL
LIVE
ASR1027
ATF-1
FU1101
FU1102
FU1103
TP1
TP2
TP3
(OTHERS)
(SD)
(YPW)
SD, SL ONLY
YPW ONLY
CEA2221M10
CEA2222M25
ICP-N10
ICP-N25
ICP-N75
KM200NA15L
KM200NA7L
CN101
CN102
CN103
ANP1612
XS041-KM0
PIONEER

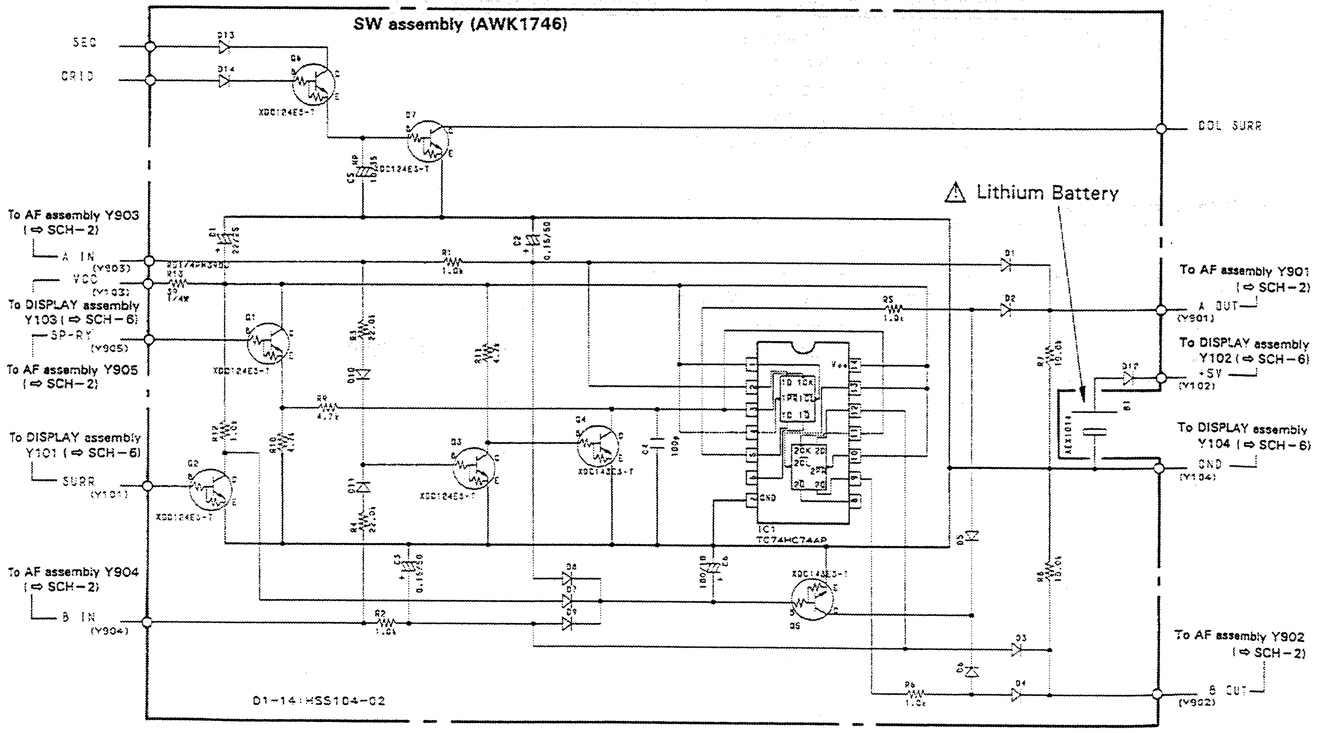
## 2.8 SW ASSEMBLY

This PCB connection diagram is viewd from the parts mounted side.

This PCB connection diagram is viwed from the foil side.


To DISPLAY assembly
Y103
Y101
Y104
Y102
⚠ Lithium Battery
PIONEER
+5V
GND
SURR
VCC
D12
R13
D13
D14
DOLSURR
GRID SEG
C1
C3
C5
D8
Q7
ANP1676-A
A IN
B IN
A OUT
B OUT
SP-RY
IC1
CMK-140SX
AWK1746-A
Y902
Y901
Y904
Y903
To AF assembly
To AF assembly Y905

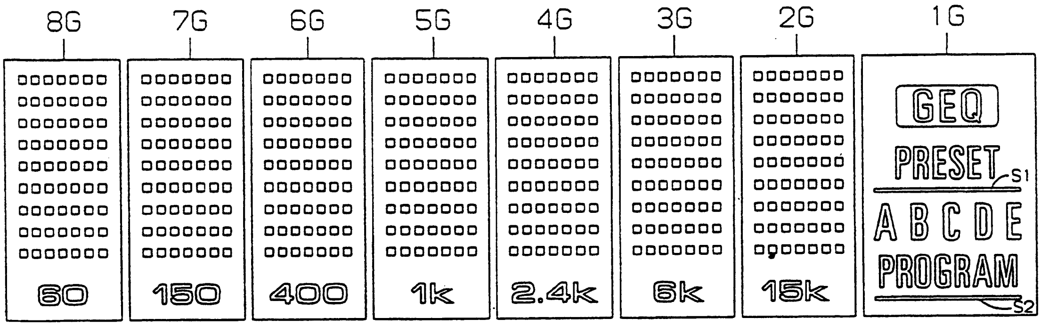
**SW assembly (AWK1746)**

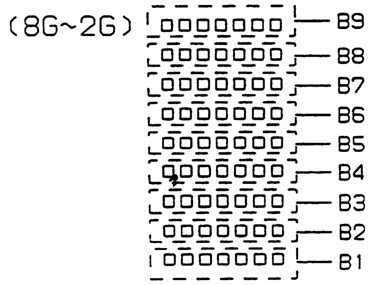

SW assembly (AWK1746)
SEG
GRID
D13
D14
Q6
XDC124ES-T
Q7
XDC124ES-T
C5
DOL SURR
⚠ Lithium Battery
To AF assembly Y903 (⇨ SCH-2)
A IN (Y903)
VCC (Y103)
To DISPLAY assembly Y103 (⇨ SCH-6)
SP-RY (Y905)
To AF assembly Y905 (⇨ SCH-2)
To DISPLAY assembly Y101 (⇨ SCH-6)
SURR (Y101)
To AF assembly Y904 (⇨ SCH-2)
B IN (Y904)
C1 22/25
C2 0.15/50
C3 0.15/50
C4 100p
C6 100/10
R1 1.0k
R2 1.0k
R3 22.0k
R4 22.0k
R5 1.0k
R6 1.0k
R7 10.0k
R8 10.0k
R9 4.7k
R10 4.7k
R11 4.7k
R12 1.0k
R13 1/4W
Q1 XDC124ES-T
Q2 XDC124ES-T
Q3 XDC124ES-T
Q4 XDC143ES-T
Q5 XDC143ES-T
D1
D2
D3
D4
D5
D6
D7
D8
D9
D10
D11
D12
B1
AEX1014
IC1
TC74HC74AP
1D 1CK
1PR 1CL
1Q 1Q
2CK 2D
2CL 2PR
2Q 2Q
Vcc
GND
To AF assembly Y901 (⇨ SCH-2)
A OUT (Y901)
To DISPLAY assembly Y102 (⇨ SCH-6)
+5V (Y102)
To DISPLAY assembly Y104 (⇨ SCH-6)
GND (Y104)
To AF assembly Y902 (⇨ SCH-2)
B OUT (Y902)
D1-14:HSS104-02

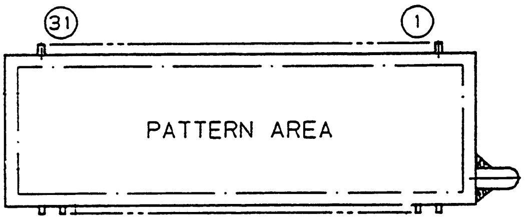
## AAV1166 (V3901 : DISPLAY ASSEMBLY)

### FL Tube

- Grid Assignment


8G
7G
6G
5G
4G
3G
2G
1G
60
150
400
1k
2.4k
6k
15k
GEQ
PRESET
S1
A B C D E
PROGRAM
S2


(8G~2G)
B9
B8
B7
B6
B5
B4
B3
B2
B1


㉛
①
PATTERN AREA

- Pin Connection

| PIN NO. | 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CONNECTION | F2 | F2 | NP | NC | 8G | 7G | 6G | 5G | 4G | 3G | 2G | 1G | NC | NC | NC | NC | P1 | P2 | P3 | P4 | P5 | P6 | P7 | P8 | P9 | P10 | NC | NC | NP | F1 | F1 |

NOTE 1) F1,F2 --- Filament
2) NP ------ No pin
3) NC ------ No connection
4) 1G~8G --- Grid
5) DL ------ Datum Line

- Anode Connection

| | 8G | 7G | 6G | 5G | 4G | 3G | 2G | 1G |
|---|---|---|---|---|---|---|---|---|
| P1 | 60 | 150 | 400 | 1k | 2.4k | 6k | 15k | S2 |
| P2 | B1 | B1 | B1 | B1 | B1 | B1 | B1 | PROGRAM |
| P3 | B2 | B2 | B2 | B2 | B2 | B2 | B2 | A |
| P4 | B3 | B3 | B3 | B3 | B3 | B3 | B3 | B |
| P5 | B4 | B4 | B4 | B4 | B4 | B4 | B4 | C |
| P6 | B5 | B5 | B5 | B5 | B5 | B5 | B5 | D |
| P7 | B6 | B6 | B6 | B6 | B6 | B6 | B6 | E |
| P8 | B7 | B7 | B7 | B7 | B7 | B7 | B7 | S1 |
| P9 | B8 | B8 | B8 | B8 | B8 | B8 | B8 | PRESET |
| P10 | B9 | B9 | B9 | B9 | B9 | B9 | B9 | GEQ |

# 3. PCB PARTS LIST

*NOTES :*

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

*Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).*

$560\Omega \rightarrow 56 \times 10^1 \rightarrow 561$ ························ *RD1/8PM* $\boxed{5}\,\boxed{6}\,\boxed{1}$ *J*
$47k\Omega \rightarrow 47 \times 10^3 \rightarrow 473$ ························ *RD1/4PS* $\boxed{4}\,\boxed{7}\,\boxed{3}$ *J*
$0.5\Omega \rightarrow 0R5$ ················································ *RN2H* $\boxed{0}\,\boxed{R}\,\boxed{5}$ *K*
$1\Omega \rightarrow 010$ ···················································· *RS1P* $\boxed{0}\,\boxed{1}\,\boxed{0}$ *K*

*Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).*

$5.62k\Omega \rightarrow 562 \times 10^1 \rightarrow 5621$ ·············· *RM1/4PC* $\boxed{5}\,\boxed{6}\,\boxed{2}\,\boxed{1}$ *F*

### LIST OF ASSEMBLIES

| Mark | No. Description | Parts No. |
|---|---|---|
| | AF ASSEMBLY (for DC−J210) | AWZ4650 |
| | AF ASSEMBLY (for DC−J110) | AWZ4647 |
| | VOLUME ASSEMBLY | AWZ4653 |
| | DISPLAY ASSEMBLY | AWZ4657 |
| NSP | MIC ASSEMBLY | AWZ4663 |
| | HEADPHONE ASSEMBLY | AWZ4666 |
| NSP | TRANS CONNECT ASSEMBLY | AWZ4672 |
| | SUB TRANS ASSEMBLY | AWZ4680 |
| | TAPE ASSEMBLY | AWV1318 |
| | SW ASSEMBLY | AWK1746 |

## AF ASSEMBLY

### SEMICONDUCTORS

| Mark | No. Description | Parts No. |
|---|---|---|
| | IC1010, IC1202 | ICP−N10 |
| | IC3101, IC3102 | LA3607 |
| | IC3103 | LC7522 |
| | IC1902 | M51951BSL |
| | IC2101, IC3301 | MC14052BF |
| | IC2102 | MC14066BF |
| | IC1001, IC1002 | MC7812CT |
| | IC1003 | NJM78M05FAS |
| | IC1006 | NJM7912FA |
| | IC1005 | NJM79M05FA |
| | IC1901 | PD5214A |
| | IC1201 (for DC−J210) | STK4170−2G |
| | IC1201 (for DC−J110) | STK4150−2G |
| | IC2103, IC2301, IC2501, IC3302, IC3303 | XRA4558F−P |
| | Q1004, Q1253, Q1261 | 2SA1048 |
| | Q1002 | 2SA1515 |
| | Q1252, Q1254, Q1262, Q1271, Q1272, Q2201, Q2202 | 2SC2458 |
| | Q2102, Q2103, Q2203 | XDA143ES |
| | Q1003 | XDC124ES |
| | Q2101 | XDC143ES |
| | D1201 | D3SBA20 (A) |
| | D1001, D1002, D1005, D1256, D1258−D1261, D1901−D1903 | HSS104−02 |
| | D1161 | RD5.1ESB2 |
| | D1904−D1912 | RD5.6ESB |
| | D1003, D1004, D1257 | S5566 |

### RELAIES

| Mark | No. Description | Parts No. |
|---|---|---|
| | RY1001, RY1251 | ASR1035 |

### COILS

| Mark | No. Description | Parts No. |
|---|---|---|
| | L1201, L1202 | ATH−133 |
| | L1901 | LAU221K |

### CAPACITORS

| Mark | No. Description | Parts No. |
|---|---|---|
| | C1003 (2200/42) | ACH1109 |
| | C1201, C1202 (5600/50)(for DC−J210) | ACH1145 |
| | C1201, C1202 (2200/42)(for DC−J110) | ACH1109 |
| | C2305, C2306 | CCSQCH101J50 |
| | C3307 | CCSQCH102J50 |
| | C3129, C3130 | CCSQCH221J50 |
| | C3125, C3126, C3305, C3306 | CCSQCH681J50 |
| | C3140, C3141 | CCSQSL101J50 |
| | C1204 | CEANP100M100 |
| | C1252, C1904 | CEAS010M50 |
| | C1261, C2103, C2104 | CEAS100M50 |
| | C3135, C3136 | CEAS101M10 |
| | C1903 | CEAS101M16 |
| | C1209−1212 | CEAS101M50 |
| | C1004 | CEAS102M35 |
| | C1005, C1006, C1011, C1205, C1206, C3311, C3312 | CEAS220M25 |
| | C1271 | CEAS221M16 |
| | C2309, C2310, C2315, C2316, C3131−C3134, C3301, C3302 | CEAS2R2M50 |
| | C2317, C2318 | CEAS330M25 |
| | C3113, C3114, C3119, C3120 | CEASR15M50 |
| | C3117, C3118 | CEASR47M50 |
| | C1007, C1008 | CEHAQ220M16 |
| | C1901, C1902, C1910 | CKCYF473Z50 |

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | C3109, C3110, C3115, C3116 | | CKCYX683M25 |
| | C1207, C1208 | | CKPUYX182M16 |
| | C1905–C1909 | | CKSQYB102K50 |
| | C2311, C2312 | | CKSQYB152K50 |
| | C3121, C3122, C3127, C3128 | | CKSQYB182K50 |
| | C3105, C3106, C3111, C3112 | | CKSQYB273K50 |
| | C3103, C3104, C3123, C3124 | | CKSQYB472K50 |
| | C2313, C2314 | | CKSQYB562K50 |
| | C3101, C3102, C3107, C3108 | | CKSQYF103Z50 |
| | C3137, C3138, C3142 | | CKSQYF473Z50 |
| | C1215–C1218 | | CQMA473J50 |

RESISTORS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | R1007–R1010 | | RD1/2PMFL100J |
| | R1254 | | RD1/4PM153J |
| | R1256 | | RD1/4PM243J |
| | R1015 | | RD1/4PM331J |
| | R1213, R1214 | | RD1/4PM4R7J |
| | R1211, R1212 | | RD1/4PM561J |
| | R1207, R1208 | | RD1/4PM563J |
| | R2317, R2318 | | RD1/4PM820J |
| | R1215, R1216 | | RD1/4PMFL100J |
| | R1209, R1210 | | RD1/4PMFL101J |
| | R3651, R3652 | | RS1/10S000J |
| | R2313, R2314 | | RS1/10S101J |
| | R2303, R2304, R3315–R3318 | | RS1/10S102J |
| | R1927, R2113–R2117, R2213, R2214, R3105, R3106, R3130, R3131 | | RS1/10S103J |
| | R2108, R2315, R2316, R3301, R3302, R3503, R3504 | | RS1/10S104J |
| | R3111–R3126 | | RS1/10S105J |
| | R2311, R2312 | | RS1/10S122J |
| | R2101, R2102, R3103, R3104 | | RS1/10S123J |
| | R2103, R2104 | | RS1/10S133J |
| | R3307–R3312 | | RS1/10S152J |
| | R2507, R2508 | | RS1/10S153J |
| | R2215, R2216 | | RS1/10S203J |
| | R2201, R2202, R2301, R2302 | | RS1/10S221J |
| | R1904–R1908 | | RS1/10S222J |
| | R2105, R2106 | | RS1/10S332J |
| | R3305, R3306 | | RS1/10S333J |
| | R2501, R2502 | | RS1/10S392J |
| | R2109, R2110, R3511, R3512 | | RS1/10S472J |
| | R2107, R2305–R2308, R3101, R3102 | | RS1/10S473J |
| | R2309, R2310 | | RS1/10S474J |
| | R1918, R1919 | | RS1/10S563J |
| | R2503, R2504, R2506 | | RS1/10S682J |
| | R3109, R3110 | | RS1/10S823J |
| | R1261, R1262 | | RS2LMFR22J |
| | | Other Resistors | RD1/8PM□□□J |

OTHERS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | X1901 | (8.00MHz) | ASS1015 |

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | CN403 | 9P SOCKET | AKP1072 |
| | CN112 | 40P SOCKET | AKP1085 |
| | CN105 | 36P SOCKET | AKP1105 |
| | CN401 | 4P JUMPER CONNECTOR | KPE4 |
| | CN106 | 7P JUMPER CONNECTOR | KPE7 |
| | | 6P PIN JACK | AKB1121 |
| | | 2P PIN JACK | AKB1146 |
| | | 4P SPEAKER TERMINAL | AKE1012 |
| | | MINI JACK | AKN–203 |
| | | 14P SOCKET | AKP1048 |
| | | SCREW | BBZ30P080FZK |

## VOLUME ASSEMBLY

SEMICONDUCTORS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | IC1502 | | TA7291S |
| | IC1501 | | XRA4558–P |
| | Q1501, Q1502 | | 2SC2878 |
| | Q1503 | | XDA124ES |

CAPACITORS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | C1507, C1508 | | CEAS101M16 |
| | C1501–C1504 | | CEAS220M25 |
| | C1505, C1506 | | CEAS470M25 |
| | C1511 | | CKDYX104M25 |
| | C1509, C1510 | | CKPUYF473Z16 |

RESISTORS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | VR1501 | (100k–4B×2) | ACX1053 |
| | R1511, R1512 | | RD1/4PM820J |
| | | Other Resistors | RD1/8PM□□□J |

## DISPLAY ASSEMBLY

SEMICONDUCTORS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | IC3702 | | BA3826S |
| | IC3901 | | PDC009A |
| | IC1701, IC1702 | | SN74LS05N |
| | Q3701 | | 2SC2458 |
| | Q3901, Q3902 | | XDC124ES |
| | Q1701, Q1702 | | XDC143ES |
| | D1701–D1704, D1707, D1716 | | AEL1064 |
| | D1705, D1706, D1709–D1713, D1715 | | AEL1065 |
| | D1708, D1714, D1801–D1806, D3702–D3705, D3801–D3806, D3901–D3907 | | HSS104–02 |

SWITCHES

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | S1801, S1802, S1804–S1816, S1818–S1820, S3801, S3802, S3806–S3811, S3813–S3817 | | ASG1034 |
| | S1901 | | ASH1012 |

COIL

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | L3901 | | LAU221K |

CAPACITORS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | C3901 | | ACH1135 |
| | C1901 | | CCCSL100D50 |
| | C3907 | | CEAS100M50 |
| | C3904, C3908 | | CEAS470M10 |
| | C3701, C3702 | | CEJA2R2M50 |
| | C3906 | | CKCYB102K50 |
| | C3703, C3905 | | CKPUYB102K50 |
| | C3902, C3903 | | CKPUYF223Z25 |

RESISTORS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | R3710, R3719 | | RD1/2PM2R2J |
| | | Other Resistors | RD1/8PM□□□J |

OTHERS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | X3901 | (12MHz) | ASS1062 |
| | CN1901 | 40P SOCKET | AKP1085 |
| | V3901 | FL TUBE | AAV1166 |
| | | REMOTE CONTROL SENSOR UNIT | AXX1023 |

## MIC ASSEMBLY

SEMICONDUCTORS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | IC2502 | | XRA4558−P |

CAPACITORS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | C2510 | | CEAS010M50 |
| | C2502, C2511 | | CEAS100M50 |
| | C2512, C2513 | | CEAS470M25 |
| | C2509 | | CEJA100M50 |
| | C2501 | | CKPUYX332M16 |

RESISTORS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | VR2501 | (10k−B) | ACS1087 |
| | | Other Resistors | RD1/8PM□□□J |

OTHERS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | | MIC JACK | AKN1010 |

## HEADPHONE ASSEMBLY

SEMICONDUCTORS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | IC1231 | | M5216P |
| | Q1231, Q1232 | | 2SC2458 |
| | Q1233 | | XDA124ES |

CAPACITORS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | C1235, C1236 | | CEAS220M25 |
| | C1231, C1232 | | CEAS2R2M50 |
| | C1241, C1242 | | CEAS330M25 |
| | C1233, C1234 | | CEAS470M25 |
| | C1237, C1238 | | CKPUYB101K50 |
| | C1239, C1240 | | CKPUYB151K50 |

RESISTORS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | R1243, R1244 | | RS1LMF820J |
| | | Other Resistors | RD1/8PM□□□J |

OTHERS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | | HEADPHONE JACK | AKN1010 |

## TRANS CONNECT ASSEMBLY

CAPACITORS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | C1158, C1159 | | CQMXA104J100 |

## SUB TRANS ASSEMBLY

SEMICONDUCTORS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | IC1015 | | ICP−N10 |
| | IC1013, IC1014 | | ICP−N75 |
| | IC1152 | | NJM78M12FAS |
| | IC1151 | | NJM78M56FAS |
| | Q1151, Q1153 | | 2SB560 |
| | Q1152 | | 2SC2458 |
| | D1154, D1156, D1159 | | HSS104−02 |
| | D1160 | | RD10ESB |
| | D1151 | | RD15ESB |
| | D1155 | | RD36ESB2 |
| | D1005−D1009, D1152, D1153, D1157, D1158 | | S5566 |

RELAY

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | RY1151 | | ASR1027 |

COILS & TRANSFORMERS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | L1101 | | ATF−151 |
| | T1151 | | ATT1219 |

CAPACITORS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | C1101 | (0.01/400) | ACG1003 |
| | C1152, C1157 | | CEAS220M50 |
| | C1153 | | CEAS221M100 |
| | C1156 | | CEAS222M25 |
| | C1151, C1154 | | CEAS470M16 |
| | C1155 | | CEAS470M25 |

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| **RESISTORS** | | | |
| | R1152 | | RD1/4PM273J |
| | R1155, R1156 | | RD1/4PM470J |
| | | Other Resistors | RD1/8PM□□□J |
| **OTHERS** | | | |
| | CN | 1P AC INLET | AKP1121 |
| **TAPE ASSEMBLY** | | | |
| **SEMICONDUCTORS** | | | |
| | IC4421 | | CXA1100P |
| | IC4202 | | MC14066BF |
| | IC4302 | | SN74LS05N |
| | IC4121, IC4151 | | UPC4570G2 |
| | IC4201, IC4251, IC4301 | | XRA4558F−P |
| | Q4352, Q4904, Q4906, Q4908, Q4910 | | 2SA1515 |
| | Q4201−Q4204, Q4355, Q4451−Q4454 | | 2SC2458 |
| | Q4205, Q4206, Q4461, Q4462 | | 2SC2878 |
| | Q4353, Q4354 | | 2SC3377 |
| | Q4321, Q4322 | | 2SK373 |
| | Q4901, Q4903 | | RN2204 |
| | Q4207, Q4421, Q4460 | | XDA124ES |
| | Q4208 | | XDA143ES |
| | Q4902, Q4905, Q4907, Q4909, Q4911 | | XDC124ES |
| | Q4209, Q4301, Q4351 | | XDC143ES |
| | D4251, D4252, D4321−D4326, D4451, D4452, D4901−D4912 | | HSS104−02 |
| **COILS & TRANSFORMER** | | | |
| | F4401, F4402 | | ATF1064 |
| | T4351 | | ATX−043 |
| | L4301, L4302 | | LTA392J |
| | L4303, L4304 | | LTA822J |
| **CAPACITORS** | | | |
| | C4362 | (2000p/630) | ACE1020 |
| | C4333, C4334 | | CCCSL100D50 |
| | C4354 | | CCCSL221J50 |
| | C4319, C4320 | | CCDSL271K500 |
| | C4123, C4124 | | CCSQCH331J50 |
| | C4252 | | CCSQCH560J50 |
| | C4151, C4152 | | CCSQCH561J50 |
| | C4253, C4303, C4304, C4403, C4404, C4453, C4454 | | CEAS010M50 |
| | C4254 | | CEAS0R1M50 |
| | C4213, C4214, C4358, C4363, C4405, C4406, C4409, C4410 | | CEAS100M50 |
| | C4133, C4134, C4161, C4162, C4402 | | CEAS101M10 |
| | C4455, C4456 | | CEAS220M16 |
| | C4321, C4322 | | CEAS2R2M50 |
| | C4309, C4310 | | CEAS330M16 |
| | C4353 | | CEAS3R3M50 |
| | C4131, C4132, C4159, C4160 | | CEAS470M10 |
| | C4325, C4326, C4361 | | CEAS470M16 |
| | C4129, C4130, C4157, C4158 | | CEAS4R7M50 |
| | C4407, C4408 | | CEASR22M50 |
| | C4902 | | CEASR33M50 |
| | C4307, C4308 | | CFTXA823J50 |
| | C4323, C4324, C4356 | | CKCYB681K50 |
| | C4352, C4360 | | CKCYF103Z50 |
| | C4211, C4212 | | CKSQYB152K50 |
| | C4311, C4312 | | CKSQYB223K50 |
| | C4305, C4306 | | CKSQYB272K50 |
| | C4251 | | CKSQYB473K50 |
| | C4315, C4316 | | CKSQYB562K50 |
| | C4357 | | CQMA123K250 |
| | C4355 | | CQMA153J50 |
| | C4209, C4210 | | CQMA183J50 |
| | C4127, C4128, C4155, C4156 | | CQMA223J50 |
| | C4207, C4208 | | CQMA273J50 |
| | C4317, C4318 | | CQMA333J50 |
| | C4351 | | CQMA562K400 |
| | C4313, C4314 | | CQMA822J50 |
| **RESISTORS** | | | |
| | VR4903 | | VRTP6HS103 |
| | VR4121, VR4122, VR4151, VR4152, VR4451, VR4452 | | VRTP6HS202 |
| | VR4901, VR4902 | | VRTP6HS203 |
| | VR4351, VR4352 | | VRTP6HS204 |
| | R4449 | | RS1/10S000J |
| | R4129, R4130, R4157, R4158 | | RS1/10S101J |
| | R4315, Q4316, R4461, R4462 | | RS1/10S102J |
| | R4201, R4202, R4409, R4416−R4418, R4420, R4422 | | RS1/10S103J |
| | R4307, R4308, R4419 | | RS1/10S104J |
| | R4205, R4206, R4209, R4210, R4459 | | RS1/10S105J |
| | R4203, R4204 | | RS1/10S122J |
| | R4257, R4421 | | RS1/10S123J |
| | R4127, R4128, R4155, R4156 | | RS1/10S124J |
| | R4123, R4124, R4151, R4152, R4219, R4220, R4252 | | RS1/10S154J |
| | R4253 | | RS1/10S181J |
| | R4222, R4321, R4322, R4413, R4414, R4458 | | RS1/10S222J |
| | R4254, R4259 | | RS1/10S223J |
| | R4251 | | RS1/10S224J |
| | R4401, R4402 | | RS1/10S242J |
| | R4407, R4408, R4411, R4412 | | RS1/10S273J |
| | R4319, R4320 | | RS1/10S302J |
| | R4207, R4208 | | RS1/10S332J |
| | R4311, R4312 | | RS1/10S333J |
| | R4403, R4404 | | RS1/10S362J |
| | R4313, R4314 | | RS1/10S393J |
| | R4427 | | RS1/10S433J |
| | R4323, R4324, R4455, R4456 | | RS1/10S471J |

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | R4213–R4216, R4231, R4450 | | RS1/10S472J |
| | R4218, R4230, R4256, R4258 | | RS1/10S473J |
| | R4255 | | RS1/10S514J |
| | R4125, R4126, R4153, R4154 | | RS1/10S622J |
| | R4325, R4326 | | RS1/10S681J |
| | R4405, R4406, R4463, R4464 | | RS1/10S682J |
| | R4309, R4310 | | RS1/10S683J |
| | R4317, R4318 | | RS1/10S820J |
| | | Other Resistors | RD1/8PM□□□J |
| OTHERS | | | |
| | CN | 36P SOCKET | AKP1105 |

## SW ASSEMBLY

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| SEMICONDUCTORS | | | |
| | IC1 | | TC74HC74AP |
| | Q1–Q3, Q6, Q7 | | XDC124ES |
| | Q4, Q5 | | XDC143ES |
| | D1–D14 | | HSS104–02 |
| CAPACITORS | | | |
| | C4 | | CCCSL101J50 |
| | C5 | | CEANP100M35 |
| | C2, C3 | | CEASR15M50 |
| | C6 | | CEAS101M10 |
| | C1 | | CEAS220M25 |
| RESISTORS | | | |
| | R13 | | RD1/4PM390J |
| | | Other Resistors | RD1/8PM□□□J |

# 4. ADJUSTMENTS

## 4.1 ADJUSTMENT OF MECHANICAL SECTION

- The adjustment location and the measuring location, refer to Fig. 4−4.
- Set the function switch to "TAPE".
- Test tape : STD−301 (3kHz 30min)

1. Adjustment of tape speed

| No. | Mode | Input signal & Test tape | Adjustment location | | Measuring location | Adjustment value | Remarks |
|---|---|---|---|---|---|---|---|
| 1 | PLAY | Playback the STD-301 tape to 3kHz. | Deck I | TAPE assembly VR4901 | JP-L (Lch) | Press the PLAY button and adjust the frequency to 3010Hz ±10Hz. Make sure that the wow and flutter is 3010Hz ±55Hz. | |
| 2 | PLAY (Double speed mode) | | | — | | Press the PLAY button in double speed mode and confirm that the frequency is 6000Hz ±1000Hz. Note down the figure. | Release the double speed mode after adjustment. |
| 3 | PLAY (Double speed mode) | | Deck II | TAPE assembly VR4903 | JP-L (Lch) | Press the PLAY button in double speed mode and adjust the frequency to be within ±30Hz of the figure recorded at step No. 2. | Release the double speed mode after adjustment. |
| 4 | PLAY | | | TAPE assembly VR4902 | | Press the PLAY button and adjust the frequency to 3010Hz ±10Hz. Make sure that the wow and flutter is 3010Hz ±55Hz. | |

Double-speed mode : The double-speed mode can be entered by short circuiting the line between TP4901 and TP4902.
The mode is canceled by opening the short circuited line and switching the power to OFF.

## 4.2 ADJUSTMENT OF ELECTRICAL SECTION

**■ Check and conduct the following before adjusting the electric section.**

1. Adjustment of tape speed has been completed.
2. Clean and demagnetize the head using a head eraser.
3. When measured, the level should be 0dBV = 1Vrms.
4. Use side A of the specified tape for adjustment.
   STD−331E : For adjustment of playback system.
   STD−631 : NORMAL blank tape
5. Prepare the following measuring devices :
   - AC millivoltmeter
   - Low-frequency oscillator
   - Attenuator
   - Oscilloscope
6. Adjust both L and R channels, unless specified otherwise.
7. Set the DOLBY NR switches to OFF, unless specified otherwise.
8. Warm up the unit for several minutes before adjustment. Especially before adjusting the frequency characteristics of recording and playback, warm up for 3 to 5 minutes in REC/PLAY mode.
9. Make sure to follow the proper order of the adjustment procedure. Any change in the order may cause an improper result.

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*"DOLBY" and the double-D symbol DD are trademarks of Dolby Laboratories Licensing Corporation.*

### ■ List of Adjustment

Deck I

1. Head azimuth adjustment
2. Playback level adjustment

Deck II

1. Head azimuth adjustment
2. Playback level adjustment
3. Bias oscillation frequency adjustment
4. Recording level adjustment
5. Adjustment of frequency characteristics of recording/playback

**As the reference recording level is 250nwb/m for STD−331E, the recording level will be higher by 4 dB for STD−331B (160nwb/m). When adjusting, pay carefull attention to the type of tape used.*

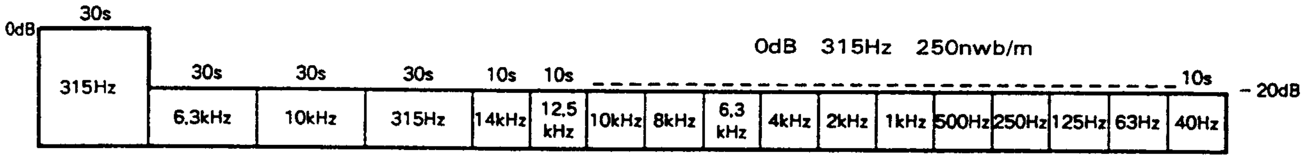
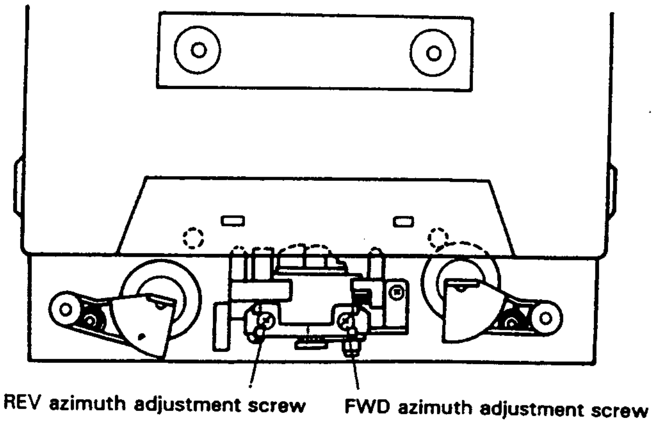

0dB
30s
315Hz
30s
6.3kHz
30s
10kHz
30s
315Hz
10s
14kHz
10s
12.5 kHz
10kHz
8kHz
6.3 kHz
4kHz
2kHz
1kHz
500Hz
250Hz
125Hz
63Hz
10s
40Hz
0dB 315Hz 250nwb/m
−20dB

Fig. 4−1 Test Tape STD−331E


REV azimuth adjustment screw
FWD azimuth adjustment screw

*NOTE : Before adjusting, remove the deck panel.*

Fig. 4−2 Head Azimuth Adjustment

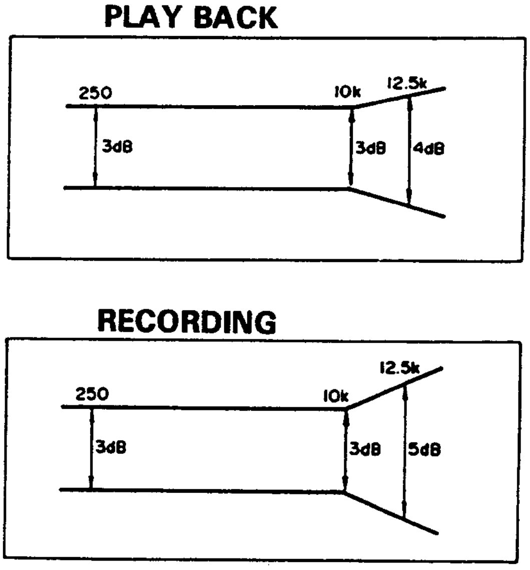


Fig. 4−3 Frequency Characteristics

## ■ Head Adjustment of Deck I

- Deck I is provided with an automatic tape selector mechanism.
- Note : Do not switch over FWD and REV while the screw driver is inserted.

### 1. Head Azimuth Adjustment

| Procedure | Tape selector (Auto) | Mode | Input signal/test tape | Adjustment location | Measuring location | Adjustment value | Remarks |
|---|---|---|---|---|---|---|---|
| 1 | NORM | PLAY | Playback the test tape STD−331E (10kHz, −20dB). | Head azimuth adjustment screw (Fig. 4−2) | TAPE assembly<br>JP−L (Lch)<br>JP−R (Rch) | Maximum playback signal level. | Lock the screw with screw lock after completing adjustment. |

### 2. Playback Level Adjustment

- Be sure to make a careful adjustment, as the adjustment determines the DOLBY NR level for playback.

| Procedure | Tape selector (Auto) | Mode | Input signal/test tape | Adjustment location | Measuring location | Adjustment value | Remarks |
|---|---|---|---|---|---|---|---|
| 1 | NORM | PLAY | Playback the test tape STD−331E (315Hz, 0dB). | TAPE assembly<br>VR4151 (Lch)<br>VR4152 (Rch) | TAPE assembly<br>JP−L (Lch)<br>JP−R (Rch) | −6.3dBV | |

## Head Adjustment of Deck II

- Deck II is provided with an automatic tape selector mechanism.
- Note : Do not switch over FWD and REV while the screw driver is inserted.

### 1. Head Azimuth Adjustment

| Procedure | Tape selector (Auto) | Mode | Input signal/test tape | Adjustment location | Measuring location | Adjustment value | Remarks |
|---|---|---|---|---|---|---|---|
| 1 | NORM | PLAY | Playback the test tape STD−331E (10kHz, −20dB). | Head azimuth adjustment screw (Fig. 4−2) | TAPE assembly<br>JP−L (Lch)<br>JP−R (Rch) | Maximum playback signal level. | Lock the screw with screw lock after completing adjustment. |

### 2. Playback Level Adjustment

- Be sure to make a careful adjustment, as the adjustment determines the DOLBY NR level for playback.

| Procedure | Tape selector (Auto) | Mode | Input signal/test tape | Adjustment location | Measuring location | Adjustment value | Remarks |
|---|---|---|---|---|---|---|---|
| 1 | NORM | PLAY | Playback the test tape STD−331E (315Hz, 0dB). | TAPE assembly<br>VR4121 (Lch)<br>VR4122 (Rch) | TAPE assembly<br>JP−L (Lch)<br>JP−R (Rch) | −6.3dBV | |

### 3. Bias Oscillation Frequency Adjustment

| Procedure | Tape selector (Auto) | Mode | Input signal/test tape | Adjustment location | Measuring location | Adjustment value | Remarks |
|---|---|---|---|---|---|---|---|
| 1 | NORM | REC | Load the test tape STD−631 and set to record mode. | TAPE assembly T4351 | Area between Ⓐ and Ⓑ (TAPE assembly) shown in Fig. 4−4. | The oscillation frequency is 105kHz ±5kHz. | |

### 4. Recording Level Adjustment

| Procedure | Tape selector (Auto) | Mode | Input signal/test tape | Adjustment location | Measuring location | Adjustment value | Remarks |
|---|---|---|---|---|---|---|---|
| 1 | NORM | REC | Apply a signal of 315Hz to the VCR input terminal and set the function to "VCR". | Input signal level | TAPE assembly<br>JP−L (Lch)<br>JP−R (Rch) | −10.3dBV | |
| 2 | NORM | REC/PLAY | Record and playback the test tape STD-631 (315Hz). | TAPE assembly<br>VR4451 (Lch)<br>VR4452 (Rch) | TAPE assembly<br>JP−L (Lch)<br>JP−R (Rch) | Repeat the recording/playback, and make adjustment so that the playback level of 315Hz is −10.3dBV. | |

### 5. Adjustment of Frequency Characteristics of Recording/playback

- As this procedure is for adjustment of the recording bias, be careful not to increase the distortion by underadjusting the bias.

| Pro-cedure | Tape selector (Auto) | Mode | Input signal/test tape | Adjustment location | Measuring location | Adjustment value | Remarks |
|---|---|---|---|---|---|---|---|
| 1 | NORM | REC | Apply a signal of 315Hz to the VCR input terminal and set the function to "VCR". | Input signal level | TAPE assembly<br>JP-L (Lch)<br>JP-R (Rch) | −30.3dBV | |
| 2 | NORM | REC/ PLAY | Record and playback the test tape STD-631 (315Hz and 10kHz). | TAPE assembly<br>VR4351 (Lch)<br>VR4352 (Rch) | TAPE assembly<br>JP-L (Lch)<br>JP-R (Rch) | Repeat the recording/playback, and make adjustment so that the playback level of 10kHz remains 0 ±0.5dB in relation to 315Hz. | |

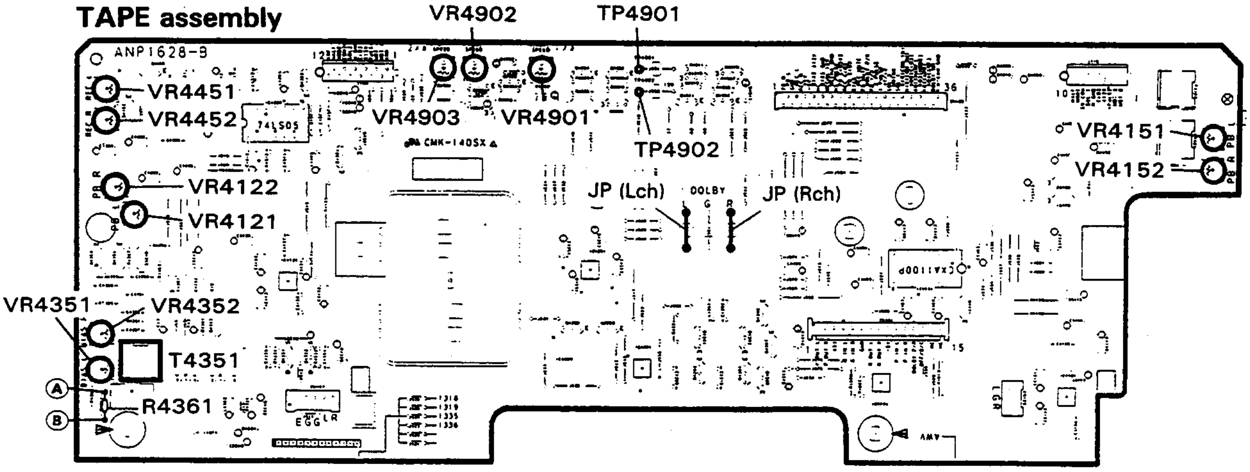
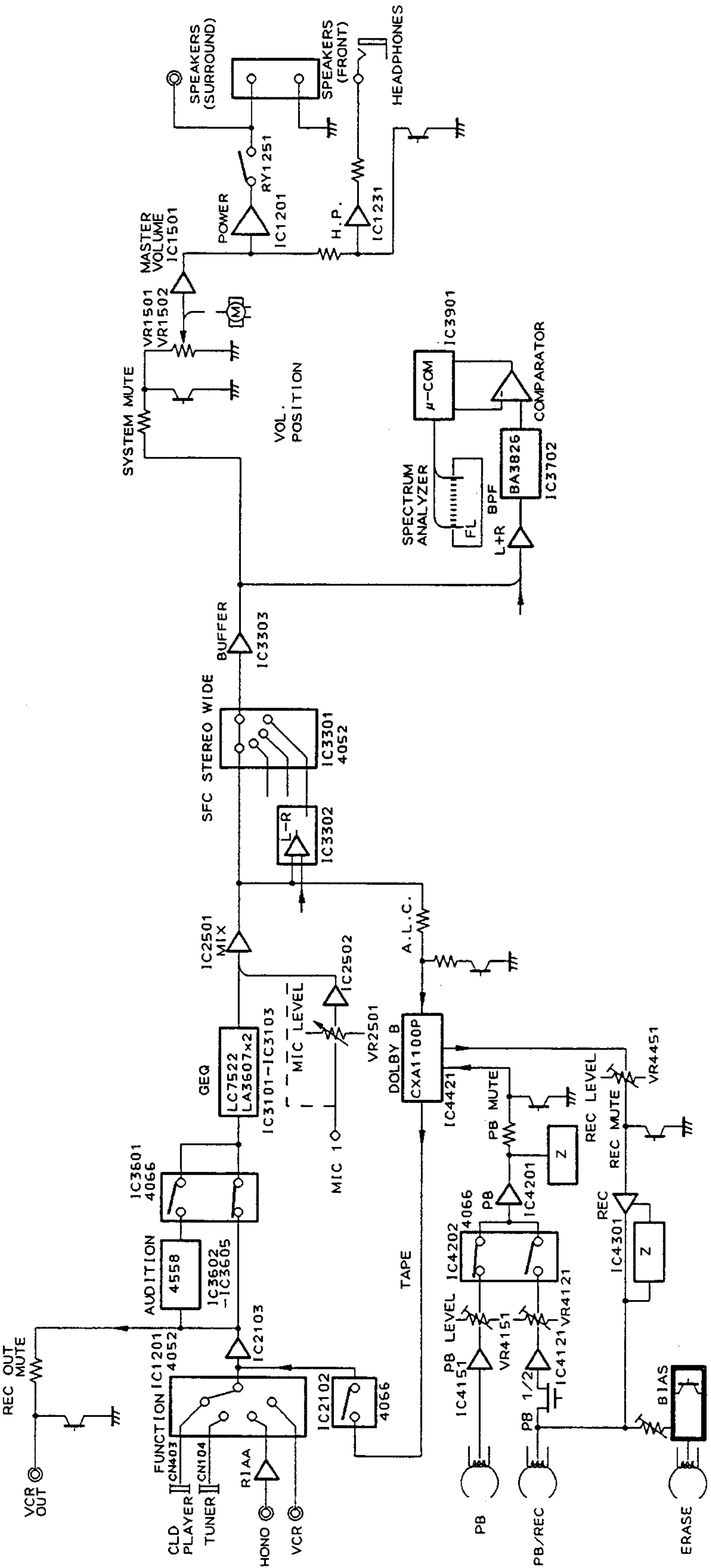

TAPE assembly
VR4902
TP4901
ANP1628-B
VR4451
VR4452
VR4903
VR4901
TP4902
VR4151
VR4152
VR4122
VR4121
JP (Lch)
DOLBY
JP (Rch)
VR4351
VR4352
T4351
A
B
R4361

Fig. 4−4 Adjustment Points

## 5. BLOCK DIAGRAM


SPEAKERS (SURROUND)
SPEAKERS (FRONT)
HEADPHONES
RY1251
POWER
IC1201
H.P.
IC1231
MASTER VOLUME IC1501
VR1501 VR1502
M
SYSTEM MUTE
VOL. POSITION
μ-COM
IC3901
COMPARATOR
SPECTRUM ANALYZER
FL
BPF
BA3826
IC3702
L+R
BUFFER
IC3303
SFC STEREO WIDE
IC3301 4052
L-R
IC3302
IC2501 MIX
A.L.C.
IC2502
MIC LEVEL
VR2501
MIC 1
GEQ
LC7522 LA3607×2
IC3101-IC3103
DOLBY B
CXA1100P
IC4421
PB MUTE
REC LEVEL
VR4451
REC MUTE
Z
IC4201
PB
REC
IC4301
4066
IC4202
TAPE
PB LEVEL
VR4151
VR4121
IC4151
IC4121
PB 1/2
BIAS
IC3601 4066
AUDITION
4558
IC3602 -IC3605
IC2103
IC1201 4052
FUNCTION
IC2102
4066
REC OUT MUTE
VCR OUT
CN403
CN104
CLD PLAYER
TUNER
RIAA
PHONO
VCR
PB
PB/REC
ERASE

# 6. FOR DC−J210/YPW, DC−J110/SD, SL AND YPW TYPES

*NOTES :*

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

## CONTRAST OF MISCELLANEOUS PARTS

DC−J210/YPW, DC−J110/SD, SL, YPW and DC−J210/SD have the same construction except for the following :

| Mark | Symbol & Description | Part No. | | | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | DC−J210/ SD | DC−J210/ YPW | DC−J110/ SD | DC−J110/ SL | DC−J110/ YPW | |
| | AF assembly | AWZ4650 | AWZ4650 | AWZ4647 | AWZ4647 | AWZ4647 | |
| | SUB TRANS assembly | AWZ4680 | AWZ4682 | AWZ4680 | AWZ4680 | AWZ4682 | ∗1 |
| ⚠ | S1 Voltage selector (AC110V/120−127V/220V/240V) | AKX−507 | ............... | AKX−507 | AKX−507 | ............... | |
| ⚠ | S Voltage selector (AC110−127V/220V−240V) | AKX1004 | ............... | AKX1004 | AKX1004 | ............... | |
| ⚠ | T102 Power transformer | ATS1468 | ATS1468 | ATS1470 | ATS1470 | ATS1470 | |
| ⚠ | FU1101 Fuse (T2.5A/250V) | AEK−512 | ............... | AEK−512 | AEK−512 | ............... | |
| ⚠ | FU1102 Fuse (T1.6A/250V) | AEK−510 | AEK−510 | ............... | ............... | ............... | |
| ⚠ | FU1102 Fuse (T800mA/250V) | ............... | ............... | AEK−507 | AEK−507 | AEK−507 | |
| ⚠ | FU1103 Fuse (T1.6A/250V) | AEK−510 | ............... | ............... | ............... | ............... | |
| ⚠ | FU1103 Fuse (T800mA/250V) | ............... | ............... | AEK−507 | AEK−507 | ............... | |
| ⚠ | AC Power cord | ADG1129 | ADG1124 | ADG1129 | ADG1127 | ADG1124 | |
| | Rear panel | ANC2005 | ANC2006 | ANC2005 | ANC2083 | ANC2006 | |
| | Front panel | AMB2092 | AMB2092 | AMB2095 | AMB2095 | AMB2095 | |
| | Heat sink | ANH1425 | ANH1425 | ANH1408 | ANH1408 | ANH1408 | |
| | Packing case | AHD2502 | AHD2502 | AHD2503 | AHD2503 | AHD2503 | |

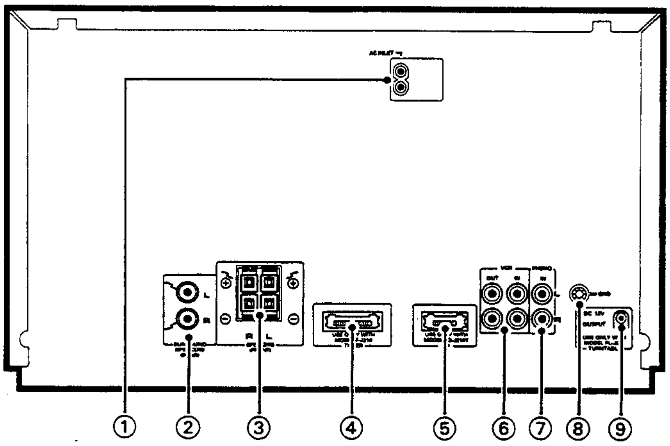
*∗1 : Although AWZ4682 and AWZ4680 are different in part number, they have the same service parts.*

## AF ASSEMBLY

AWZ4647 and AWZ4650 have the same construction except for the following :

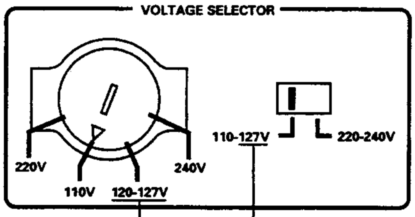
| Mark | Symbol & Description | Part No. | | Remarks |
|---|---|---|---|---|
| | | AWZ4650 | AWZ4647 | |
| | IC1201 | STK4170−2G | STK4150−2G | |
| | C1201, C1202 (5600/50) | ACH1145 | .................. | |
| | C1201, C1202 (2200/42) | .................. | ACH1109 | |

# 7. PANEL FACILITIES



(YPW type)

SD, SL types


VOLTAGE SELECTOR
220V
110V
120-127V
240V
110-127V
220-240V

These voltage indications show 120V only with Singapore model.

**Double Deck Amplifier: DC-J210/DC-J110**

① **AC INLET jack**
Connect the power cord here.

② **SURROUND SPEAKERS jacks**
Connect the surround speaker systems.

*NOTE:*
*Connect a speaker system having a nominal impedance of 16 Ω or more.*

③ **SPEAKERS terminals**
L: Connect the left speaker systems as seen from the listening position.
R: Connect the right speaker system as seen from the listening position.

*NOTE:*
*Connect a speaker system having a nominal impedance ranging from 6 Ω to 16 Ω.*

④ **TUNER jacks**
Connect the tuner flat cable here.

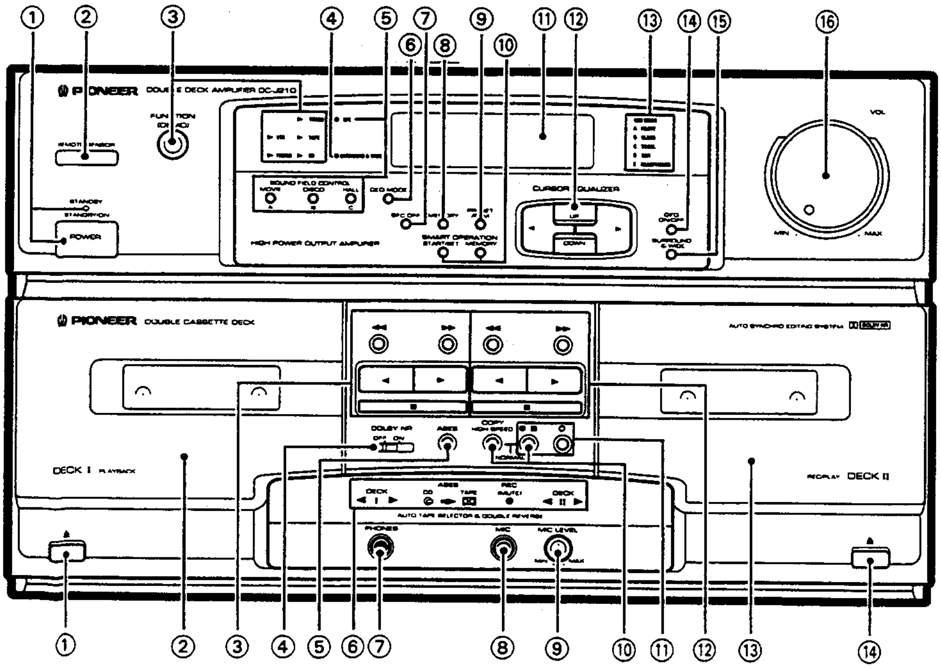
⑤ **CD jacks**
Connect to a compact disc player PD-J210T or PD-J215M flat cable.

⑥ **VCR IN/OUT jacks**
IN : Connect to audio output jacks of VCR.
OUT: Connect to audio input jacks of VCR.

⑦ **PHONO input jacks**
Connect the audio cord of the turntable to these jacks.

⑧ **Ground terminal (GND)**
Connect the ground cord of the turntable here (except for PL-J210).

⑨ **TURNTABLE (DC 12V OUTPUT) jack**
This jack supplies power to the turntable PL-J210.
Connect the power supply cord of the turntable to this jack.


①
②
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⑫
⑬
⑭
⑮
⑯
PIONEER
POWER
FUNCTION
VOL
MIN
MAX
CURSOR
EQUALIZER
UP
DOWN
HIGH POWER OUTPUT AMPLIFIER
SMART OPERATION
START/SET
MEMORY
PIONEER DOUBLE CASSETTE DECK
DECK I
DECK II
DOLBY NR
OFF ON
COPY
HIGH SPEED
NORMAL
PHONES
MIC
MIC LEVEL
AUTO TAPE SELECTOR & DOUBLE REVERSE
①
②
③
④
⑤
⑥
⑦
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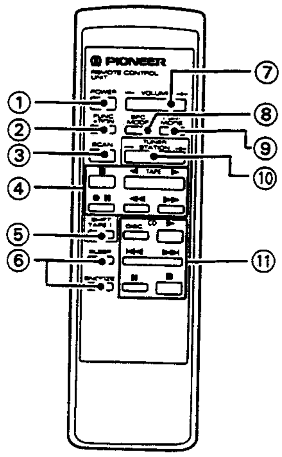
DC-J210/DC-J110
(The illustration of the double deck amplifier shows the Model DC-J210.)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## Double Deck Amplifier: DC-J210/DC-J110

- This unit has an automatic tape type selector.
- Tapes can be played back on deck I; tapes can be played back and recorded on deck II.
- Sound can be recorded as adjusted by the graphic equalizer.
- Use a TYPE I (normal) or TYPE II (HIGH/CrO$_2$) tape.

### ■ Amplifier section

**① POWER STANDBY/ON switch/STANDBY indicator**

This is the switch for electric power.

**ON** : When set to the ON position, power is supplied and the unit becomes operational.

**STANDBY**: When set to the STANDBY position, the main power flow is cut and the unit is no longer fully operational.
A minute flow of power feeds the unit to maintain operation readiness.
When the STANDBY indicator is on, the unit is in STANDBY.

**② REMOTE SENSOR window**

**③ FUNCTION (DEMO) button and indicators**

Use to select the input source. Each time the button is pressed, the input source changes in the order:

→ CD → VCR → PHONO → TUNER → TAPE ─┐

As each source is selected, the corresponding indicator lights.

**④ SURROUND & WIDE indicator**

This lights when SURROUND & WIDE is on.

**⑤ SOUND FIELD CONTROL buttons and indicator (MOVIE/A, DISCO/B, HALL/C)**

These buttons are used when selecting one of the preset sound fields (MOVIE, DISCO, HALL), or one of your own original memory settings (PROGRAM A, B, C). The SFC indicator lights when this setting is selected.

**⑥ GEQ MODE button**

Use to recall preset equalization settings. Also use to program into memory desired sound field settings.

**⑦ SFC OFF button**

Press to reset the sound field control to no effect. Then, the SURROUND and WIDE to off, and set the graphic equalizer to its flat setting.

**⑧ MEMORY button**

Use to memorize your desired sound field control settings.

**⑨ PRESET/PGM (PROGRAM) button**

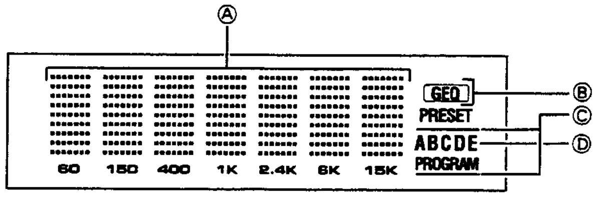
Use to switch between preset sound field control settings and your own personally created sound field setting.

**⑩ SMART OPERATION buttons**

**START/SET**: Use when programming memory and operating SMART OPERATION.

**MEMORY** : Use when programming SMART OPERATION into memory.

**⑪ Display section**



Ⓐ Visual display of spectrum analyzer and graphic equalizer.

Ⓑ This lights when the GEQ ON/OFF button is ON.

Ⓒ These underlines indicate the memory (PRESET or PROGRAM) that can be recalled with the PRESET/PGM or GEQ MODE button.

Ⓓ Display of the memory being recalled with the GEQ MODE button (A, B, C, D or E lights) or SOUND FIELD CONTROL buttons (A, B or C lights).

**⑫ CURSOR EQUALIZER buttons**

Use to adjust graphic equalizer settings.

**◄, ►** : Use these to change the frequency range to be adjusted.

**UP, DOWN**: Use these to adjust the degree of equalization.

**⑬ Preset equalizer indicators**

Lights when the desired preset equalizer is selected.

**⑭ GEQ ON/OFF button**

This switches the graphic equalizer ON/OFF. When it's ON, the GEQ indicator in the display section lights.

**⑮ SURROUND & WIDE button**

By turning this button ON, you can enjoy surround reproduction when rear speakers are used.
By turning this button ON, you can enjoy WIDE (stereo wide) reproduction with greater left-right spread when rear speakers are not used.
Each time the button is pressed the function changes in the following order:

→ WIDE 1 → WIDE 2 → WIDE 3 → off ─┐

The sense of left-right breadth increases as the numbers increase from 1 to 3.

***NOTE:***
*In the case of monaural source, SURROUND & WIDE effects cannot be obtained.*

**⑯ VOL. (Volume) control**

## ■ Cassette deck section

### ① Deck I eject button ( ≜ )

### ② Deck I cassette door

### ③ Deck I operation buttons

| | |
|---|---|
| ► (Play) : | For playing back a tape in the forward mode. |
| ◄ (Play) : | For playing back a tape in the reverse mode. |
| ■ (Stop) : | For stopping the tape. |
| ►► (Fast): | Fast forward in forward mode, rewind in reverse mode.<br>Music search (MS) starts if this is pressed during playback. |
| ◄◄ (Fast): | Rewind in forward mode, fast forward in reverse mode.<br>Music search (MS) starts if this is pressed during playback. |

### ④ DOLBY* NR switch

Set this switch to the ON position to activate the DOLBY NR system.

- Tapes recorded using Dolby noise reduction should always be played back with the noise reduction system on. Sound quality will be adversely affected if played back with the system off, or if tapes recorded using a different noise reduction system are played back with the Dolby NR system on.
- It is recommended that tapes recorded with Dolby B type NR be so marked on the label. This will help prevent incorrect setting of the noise reduction switch during playback.

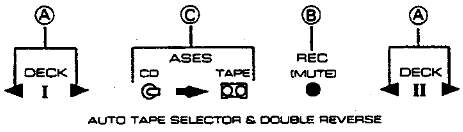
*
- *Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.*
- *"DOLBY" and the double-D symbol ꟷꟷ are trademarks of Dolby Laboratories Licensing Corporation.*

### ⑤ ASES button

Used for automatically recording a CD on cassette tape.

***NOTE:***
- *FINE is the mode when performing CD player EDIT (Computer Allocated Program Editing).*
- *The NORMAL mode provides a blank space of about five seconds between songs.*

### ⑥ Operation indicators



Ⓐ **Direction (◄, ►):** Indicates direction of tape travel during recording or playback. Flashes slowly in Pause mode. Flashes rapidly during Music Search (MS).

Ⓑ **REC (MUTE):** Lights when recording. It flashes during tape copying.

Ⓒ **ASES:** Lights during the A.S.E.S. mode.

### ⑦ PHONES (Headphones) jack

For stereo headphones.

***NOTE:***
*There is no output from the speakers when headphones are plugged into PHONES jack.*

### ⑧ MIC (Microphone) jack

This is a standard jack for connecting a microphone.

### ⑨ MIC LEVEL control

Used for adjusting the volume of microphone.

### ⑩ COPY buttons

Used for tape copying. To select normal speed, press the recording pause button (●II) followed by the HIGH SPEED button.

| | |
|---|---|
| **HIGH SPEED:** | Copying at about twice normal tape speed. (Copies can be made in about half the NORMAL time.) |
| **NORMAL :** | Copying from the Deck I tape to the Deck II tape at normal recording/playback speed. |

### ⑪ Deck II control buttons

| | |
|---|---|
| **● II (Rec pause):** | When pressed once, sets unit to recording pause mode. The REC indicator lights and the direction indicators (◄ and ►) flash. Recording begins when you press the play button (◄ or ►).<br>When pressed while the tape is traveling, the unit will enter the pause mode. |
| **O (Mute) :** | Used for creating a blank space between songs. |

### ⑫ Deck II operation buttons

Same as Deck I operation buttons ③.

### ⑬ Deck II cassette door

### ⑭ Deck II eject button ( ≜ )

## Remote Control Unit

① **POWER button**

② **FUNCTION button**

Use to select the input source. Each time the button is pressed, the input source changes in the order:

→ CD → VCR → PHONO → TUNER → TAPE ⏎

As each source is selected, the corresponding indicator lights.

③ **SCAN button**

Use when you wish to scan the radio stations stored in the memory. Each station will be received for about five seconds before moving automatically to the next station.

④ **TAPE II operation buttons**

Same as Deck II operation buttons and Deck II control buttons on the cassette deck amplifier (except Mute).

⑤ **SHIFT TAPE I button**

To operate Deck I, press the desired deck operation while pressing this button.

⑥ **Timer operation buttons**

**SLEEP** : Sets the sleep timer.
**SNOOZE** : Turns off power if pressed after timer playback begins. Timer playback begins again approx. 5 minutes later.
The amplifier input selector automatically switches to the music source being operated when you press the CD playback (►), cassette deck playback (◄, ►), or tuner station controls.

⑦ **VOLUME + (UP)/– (DOWN) buttons**

When pressed, VOLUME on the amplifier is actually moved by a motor.

⑧ **SFC MODE button**

Use to select one of the preset sound fields. Each time the button is pressed, one of the preset sound fields will be selected, in the following order:

→ MOVIE → DISCO → HALL
off* ←

*Set SURROUND & WIDE to off, and set the graphic equalizer to its flat setting.

⑨ **PGM (PROGRAM) MODE button**

This button is used when selecting one of your own personally created sound fields. Each time the button is pressed, one of the sound fields will be selected, in the following order:

→ A → B → C
off* ←

*Set SURROUND & WIDE to off, and set the graphic equalizer to its flat setting.

⑩ **TUNER STATION – (DOWN)/ + (UP) buttons**

- Used for locating Stations (see pages 15, 16).

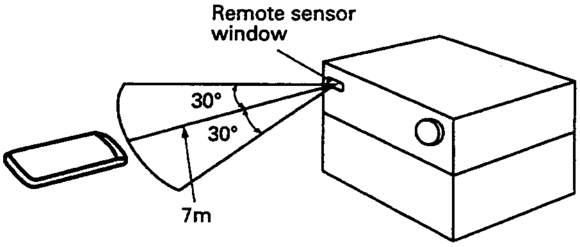
**+ (UP)** : Stations change in order in the upward direction
**– (DOWN)**: Stations change in order in the downward direction.

⑪ **CD operation buttons**

Perform the connections so that the CD player is operated by the remote control unit.

► : Play
**DISC** : DISC selection
■ : Stop
II : Pause
⏮, ⏭ : Track search

### Range of remote control



When the remote control unit is pointed at the remote sensor window on the amplifier section and any of its buttons is pressed, the tuner and other components can be operated by remote control.
Distance: Within a range of approx. 7 meters (23 feet) from the remote sensor window.
Angle: Within approx. 30 degrees from the center of the remote sensor window.
Remote control will not be possible if there is an obstacle between the remote control unit itself and the remote sensor window.
Performance of the remote control unit is adversely affected by strong fluorescent light. Keep such lights away, especially from the sensor window.

# 8. SPECIFICATIONS

## Double deck amplifier: DC-J210/DC-J110

### Amplifier Section

**[DC-J210]**
**Continuously Average Power Output is 50 Watts* per channel, min., at 8 ohms from 40 Herz to 20,000 Herz, with no more than 5% ** total harmonic distortion.**
**[DC-J110]**
**Continuously Average Power Output is 25 Watts* per channel, min., at 8 ohms from 40 Herz to 20,000 Herz, with no more than 5% ** total harmonic distortion.**

- Measured pursuant to the Federal Trade Commission's Trade Regulation rules on Power Output Claims for Amplifiers.

Music power (DIN)
  [DC-J210] .......................... 105 W+105 W (1kHz, T.H.D. 1%, 8Ω)
  [DC-J110] .............................. 82 W+82 W (1kHz, T.H.D. 1%, 8Ω)
Graphic equalizer frequency band .........................60 Hz, 150 Hz, 400 Hz, 1 kHz, 2.4 kHz, 6 kHz, 15 kHz, ±7 dB
Total Harmonic Distortion
  [DC-J210] .................................................... No more than 0.2% (40 Hz to 20,000 Hz, 35 W, 8Ω)**
  [DC-J110] .................................................... No more than 0.2% (40 Hz to 20,000 Hz, 22.5 W, 8Ω)**

### Cassette Deck Section

Systems ..................................................4 track, 2-channel stereo
Heads ...............................................Recording/playback head x 1
Playback head x 1
Erasing head x 1
Motor ...............................................DC servo 2 speed motor x 2
Wow and Flutter ..........................No more than 0.09% (W.PEAK)
Fast Winding Time ...........................Approximately 105 seconds (C-60 tape)
Frequency Response (-20 dB recording):
  TYPE I (Normal) tape ..........................35 Hz to 14,000 Hz ±6 dB
  TYPE II (HIGH/CrO2) tape ...................35 Hz to 15,000 Hz ±6 dB
Signal-to-Noise ratio
  Dolby NR OFF ...................................................................56 dB
Noise Reduction Effect
Dolby B-type NR ON .............................More than 5 dB (at 5 kHz)

### Furnished Parts

Operating Instructions ..................................................................1
Remote Control Unit .....................................................................1
Dry Cell Batteries ("AAA" (IEC R03/UM-4) .................................2
Power cord ....................................................................................1

### Miscellaneous

Power requirements
  Australian model ..................................AC 240 Volts~, 50/60 Hz
  Singapore model
  .........................AC 110/120/220/240 V (switchable), 50/60 Hz
  Other models
  ....................AC 110/120-127/220/240 V (switchable), 50/60 Hz
Power Consumption:
  [DC-J210] ............................................................................400 W
  [DC-J110] ............................................................................275 W
Dimensions ................................ 360 (W) x 210 (H) x 344 (D) mm
Weight (without package)
  [DC-J210] ............................................................................9.5 kg
  [DC-J110] ...............................................................................8 kg

- *Specifications and design subject to possible modification without notice due to improvements.*

***Measured By Audio Spectrum Analyzer.*